Sourcebook for the 29th Maya Hieroglyph Forum

March 11-16, 2005

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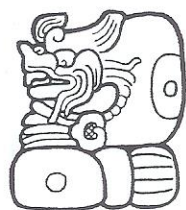
Sourcebook for the 29th Maya Hieroglyph Forum

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V.

The Calendars

The Calendar Round

The so-called Calendar Round more correctly consists of two intermeshed but separate calendars, one "ritual" cycle 260 days and another of 365 days, approximating the solar year. When combined, as they so often were in Maya records, they produced a grander cycle that would repeat every 18,980 days, or approximately 52 years. These cycles were shared throughout Mesoamerica in Pre-Columbian times, although the names of the various time periods of course were quite varied and present in many different languages. Indeed, the Maya did not invent the calendar systems for which they are sometimes lauded, for, as we shall see, its origins probably existed to the west, perhaps among the precocious cultures of Early and Middle Formative Oaxaca. Vestiges of these calendars remained in use well into modern times, and indeed are vibrantly employed today by some traditional communities.

For the purpose of learning the mechanics of the Calendar Round system, it is useful to begin with the natural day as a simple and easily recognizable unit. All the varied cyclical systems employed in Mesoamerica were, at least in part, records of individual days. It is no accident that the word for "day" in Mayan languages, *k'in* or its cognate forms, is also the word for "time" in the abstract sense. Individual days could therefore be recorded by a variety of methods, depending on the calendar cycle used, or, as was more common, a combination of such cycles. The Calendar Round, with its two essential components, was perhaps the most common means of recording a single day.

The 260-day Round

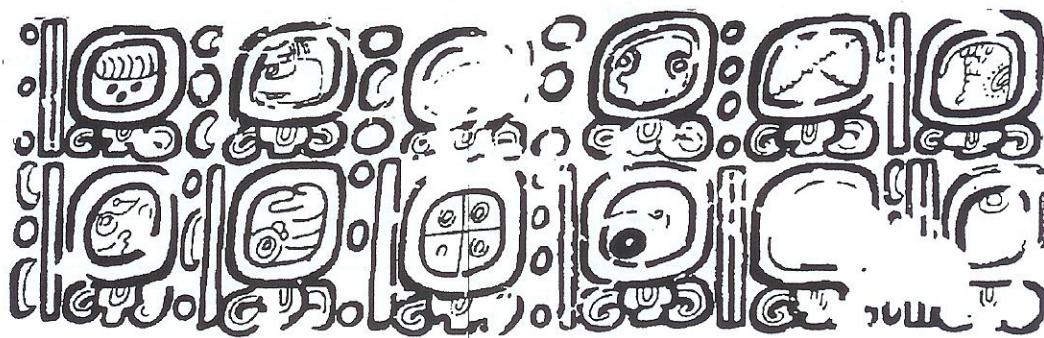
Among the most important of these recurring cycles was the period of 260 days, commonly known as the *tzolk'in.* This consists of two smaller recurring cycles of days -- one, of 13, designated solely by the numbers 1-13, and another, of 20, each labeled with a separate name. The day names varied across Mayan languages and we can only presume that such was the case in Pre-Columbian times as well. For the moment, rather than referring to these varied names and meanings of the twenty days, we can focus on the mechanics of this cycle by labeling the days with the letters A-T. Individual days were designated by a combination of the number and name, in that order, so that we may arbitrarily label a certain day as 1A. The next day is 2B, the next 3C, and so on, until we arrive at 13M. After thirteen days the short numerical cycle reverts back to 1. After 13M comes 1N, 2O, 3P, and so forth. Once the day 7T passes, the day name will revert back to A, so that the next day is 8A. Continuing in this way, the combination 1A, or any day in this system, will arrive 260 days after its initial appearance.

Applying the traditional Yukatek names to the system we have described, we have the following sequence of days, reading down in each column:

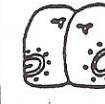
1 Imix	10 Ok	6 Imix
2 Ik’	11 Chuwen	7 Ik'
3 Ak’b'al	12 Eb	8 Ak'b'al
4 K’an	13 Ben	9 Kan
5 Chikchan	1 Ix	10 Chikchan
6 Kimi	2 Men	11 Kimi
7 Manik'	3 Kib	12 Manik'
8 Lamat	4 Kab'an	13 Lamat
9 Muluk	5 Ajaw	1 Muluk, etc.

It should be emphasized that these names, while apparently prevalent in Yucatan in the 15th century, were not necessarily those used by Classic-period scribes of Yucatan or areas further south. Indeed, it is difficult if not impossible to know how the names were pronounced in the 7th or 8th century at various sites, without reliance of phonetic clues attached to the day signs themselves.

The day signs are easily recognized in the inscriptions by being enclosed with a special cartouche. This has a thick rounded border, and often a tri-lobed “pedestal” on which it rests. In painted texts, the cartouche often has a red color, in stark contrast with the surrounding black-and-white lines. The red cartouche surely derived originally from the sign for “blood,” as seen in some of the earliest Maya day signs.

The sequence of numbers and names given above can now be seen in this remarkable painted inscription from Ek’ Balam, Yucatan, drawn and analyzed by Alfonso Lacadena. Here one sees a tally of days, used in this inscription to indicate the passage of time.

The days signs themselves hold a fairly consistent form throughout the Classic period, and a good many of them relate to the twenty day glyphs and names known from other Mesoamerican cultures.

The 365-day round

Although sometimes accorded a secondary role in descriptions of the Mesoamerican calendars, the solar year of 365-days is perhaps the most important type of day-count. The solar year is still reckoned in the ancient manner in several modern Maya communities as a type of “civil calendar,” even in areas where the more esoteric 260-day cycle no longer survives. This is

natural enough, given the obvious importance of the solar year in the practical lives of Maya throughout history.

The Mesoamerican solar year was conceived as eighteen "months" of twenty days each, followed by a five-day closing period that was itself a kind of "mini-month." Individual days would be numbered within each month, so that a day in the Classic Maya system might fall on "the eigth of Kasew," to be followed by "the ninth of Yaxk'in," and so on, up to 19 Yaxk'in (a convenient short-hand way of representing the station). The next day, in turn, was the "seating" (*chum*) of the next month, Mol. Then came 1 Mol, 2 Mol, and so on, up to 19 Mol, which was in turn followed by "seating of Ik'sihoom." All cultures of Mesoamerica made use of this type of calendar, although the names varied considerably, even within single language groups. Early historical sources such as Landa's *Relación* often mention the distinctive community-wide festivals associated with each month.

Mayanists long ago adopted the names of the months used in Yucatan at the time of the Conquest, but the labels used among other groups such as the Tzotzil can appear very different. In Classic times as well, we see some variability, despite a few clear overlaps. Here are the Pre-columbian names and their Yukatek equivalents:

Classic Mayan	Yukatek
K'anjalab'?	Pohp
Chakat	Woh
Ik'at	Sip
Suutz'	Sootz'
Kasew	Tsek
Tzikin	Xul
Yaxk'in	Yaxk'in
Mol	Mol
Ik'sihoom	Ch'en
Yaxsihoom	Yax
Saksihoom	Sak
Chaksihoom	Keh
Mak	Mak
Uniw / K'ank'in	K'ank'in
Muwaan	Muan
Paax	Pax
K'anasiiy	K'ayab,
Hulohl?	Kumk'u
Uwayhaab'??	Wayeb'

It is interesting to consider why "seating" was used to describe the installation of a new month, for this was the basic term commonly applied to the accession of a king. Perhaps in some real sense the months were not simply abstract sub-divisions of the year, but animate beings in their own right. It is also tempting to wonder in this light if the twenty-day period was somehow conceived as a *winik*, a word that means both "twenty" and "man, person" in some Mayan languages. The word for "month" in Yukatek that is sometimes applied to these periods is the cognate form *winal*.

PERIOD	"GEOMETRIC" FORMS	HEAD VARIANTS	CODICES
K'IN (kin)			
WINAL (uinal)			
TUN (tun)			
K'ATUN (katun)			
BAK'TUN ("baktun")			
PIKTUN ("pictun")			
KALABTUN ("calabtun")			
K'INCHILTUN ("kinchiltun")			

All tables by Peter Mathews

Maya dates: the Period glyphs.

DAY	MONUMENTS	CODICES	LANDA
IMIX (Imix)			
IK' (Ik)			
AK'BAL (Akbal)			
K'AN (Kan)			
CHIKCHAN (Chicchan)			
KIMI (Cimi)			

Maya dates: the Day names, Imix through Kimi

P.M.

Maya dates: the Day names, Manik' through Ben

MONTH	MONUMENTS	CODICES	LANDA
POHP (Pop)			
WO (Uo)			
SIP (Zip)			
SOTZ' (Zotz')			
SEK (Zec)			
XUL (Xul)			
YAXK'IN (Yaxkin)			
MOL (Mol)			
CH'EN (Ch'en)			
YAX (Yax)			

P.M.

Maya dates: the Month names, Pohp through Yax.

MONTH	MONUMENTS	CODICES	LANDA
SAK (Zac)			
KEH (Ceh)			
MAK (Mac)			
K'ANK'IN (Kankin)			
MUWAN (Muan)			
PAX (Pax)			
K'AYAB (Kayab)			
KUMK'U (Cumku)			

wayeb (uayeb)			

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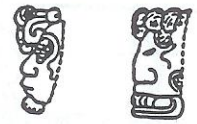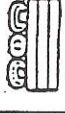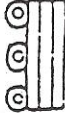
Maya dates: the Month names, Sak through Kumk'u, and wayeb.

NUMBER	BAR AND DOT	HEAD VARIANTS - MONUMENTS	CODICES	OTHER
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Maya dates: the Numbers, 0 through 10. P.M.

NUMBER	BAR AND DOT	HEAD VARIANTS - MONUMENTS	CODICES	OTHER
11				
12				
13				
14				
15				
16				
17				
18				
19				
20 / "com-pletion"				
other				

Maya dates: the Numbers, 11 through 20. P.M.

The Days

. 1	Imix	(Imix)
. 2	Ik'	(Ik)
. 3	Ak'bal	(Akbal)
. 4	K'an	(Kan)
. 5	Chikchan	(Chicchan)
. 6	Kimi	(Cimi)
. 7	Manik'	(Manik
. 8	Lamat	(Lamat)
. 9	Muluk	(Muluc)
.10	Ok	(Oc)
.11	Chuwen	(Chuen)
.12	Eb	(Eb)
.13	Ben	(Ben)
.14	Ix	(Ix)
.15	Men	(Men)
.16	Kib	(Cib)
.17	Kaban	(Caban)
.18	Etz'nab	(Etz'nab)
.19	Kawak	(Cauac)
. 0	Ahaw	(Ahau)

The Months

Pohp	(Pohp)	
Wo	(Uo)	
Sip	(Zip)	
Sotz'	(Zotz')	
Sek	(Zec)	
Xul	(Xul)	
Yaxk'in	(Yaxkin)	
Mol	(Mol)	
Ch'en	(Ch'en)	
Yax	(Yax)	
Sak	(Zac)	
Keh	(Ceh)	
Mak	(Mac)	
K'ank'in	(Kankin)	
Muwan	(Muan)	
Pax	(Pax)	
K'ayab	(Kayab)	
Kumku	(Cumku)	
wayeb	(uayeb)	(5 days)

The Time Periods

K'in	1 day
Winal	20 k'ins
Tun	18 winals
K'atun	20 tuns
Bak'tun	20 k'atuns

Multiples of 260 days (13.0), 365 days (1.0.5), and 18,980 days (2.12.13.0).

	260 days	365 days	18,980 days
1	13. 0	1. 0. 5	2.12.13. 0
2	1. 8. 0	2. 0.10	5. 5. 8. 0
3	2. 3. 0	3. 0.15	7.18. 3. 0
4	2.16. 0	4. 1. 0	10.10.16. 0
5	3.11. 0	5. 1. 5	13. 3.11. 0
6	4. 6. 0	6. 1.10	15.16. 6. 0
7	5. 1. 0	7. 1.15	18. 9. 1. 0
8	5.14. 0	8. 2. 0	1. 1. 1.14. 0
9	6. 9. 0	9. 2. 5	1. 3.14. 9. 0
10	7. 4. 0	10. 2.10	1. 6. 7. 4. 0
11	7.17. 0	11. 2.15	1. 8.19.17. 0
12	8.12. 0	12. 3. 0	1.11.12.12. 0
13	9. 7. 0	13. 3. 5	1.14. 5. 7. 0
14	10. 2. 0	14. 3.10	1.16.18. 2. 0
15	10.15. 0	15. 3.15	1.19.10.15. 0
16	11.10. 0	16. 4. 0	2. 2. 3.10. 0
17	12. 5. 0	17. 4. 5	2. 4.16. 5. 0
18	13. 0. 0	18. 4.10	2. 7. 9. 0. 0
19	13.13. 0	19. 4.15	2.10. 1.13. 0
20	14. 8. 0	1. 0. 5. 0	2.12.14. 8. 0
30	1. 1.12. 0	1.10. 7.10	3.19. 1.12. 0
40	1. 8.16. 0	2. 0.10. 0	5. 5. 8.16. 0
50	1.16. 2. 0	2.10.12.10	6.11.16. 2. 0
60	2. 3. 6. 0	3. 0.15. 0	7.18. 3. 6. 0
70	2.10.10. 0	3.10.17.10	9. 4.10.10. 0
80	2.17.14. 0	4. 1. 2. 0	10.10.17.14. 0
90	3. 5. 0. 0	4.11. 4. 0	11.17. 5. 0. 0
100	3.12. 4. 0	5. 1. 7. 0	13. 3.12. 4. 0

Maya dates: the Day and Month names, and multiplication tables.

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Multiples (in the Long Count and in days) of *winals*, *tuns*, and *k'atuns*.

	winals		tuns		k'atuns	
1	1.0	20 days	1.0.0	360 days	1.0.0.0	7,200 days
2	2.0	40	2.0.0	720	2.0.0.0	14,400
3	3.0	60	3.0.0	1,080	3.0.0.0	21,600
4	4.0	80	4.0.0	1,440	4.0.0.0	28,800
5	5.0	100	5.0.0	1,800	5.0.0.0	36,000
6	6.0	120	6.0.0	2,160	6.0.0.0	43,200
7	7.0	140	7.0.0	2,520	7.0.0.0	50,400
8	8.0	160	8.0.0	2,880	8.0.0.0	57,600
9	9.0	180	9.0.0	3,240	9.0.0.0	64,800
10	10.0	200	10.0.0	3,600	10.0.0.0	72,000
11	11.0	220	11.0.0	3,960	11.0.0.0	79,200
12	12.0	240	12.0.0	4,320	12.0.0.0	86,400
13	13.0	260	13.0.0	4,680	13.0.0.0	93,600
14	14.0	280	14.0.0	5,040	14.0.0.0	100,800
15	15.0	300	15.0.0	5,400	15.0.0.0	108,000
16	16.0	320	16.0.0	5,760	16.0.0.0	115,200
17	17.0	340	17.0.0	6,120	17.0.0.0	122,400
18	1. 0.0	360	18.0.0	6,480	18.0.0.0	129,600
19	1. 1.0	380	19.0.0	6,840	19.0.0.0	136,800
20	1. 2.0	400	1. 0.0.0	7,200	1. 0.0.0.0	144,000

The Days, and their possible corresponding month coefficients.

Imix	Kimi	Chuwen	Kib	4	9	14	19
Ik'	Manik'	Eb	Kaban	5	10	15	(2)0
Ak'bal	Lamat	Ben	Etz'nab	6	11	16	1
K'an	Muluk	Ix	Kawak	7	12	17	2
Chikchan	Ok	Men	Ahaw	8	13	18	3

Dates in the *tzolk'in* that are 365 days (1.0.5) apart.

Imix	Ik'	Ak'bal	K'an	Chikchan	1	5	9	13	4	8	12	3	7	11	2	6	10
Kimi	Manik'	Lamat	Muluk	Ok	2	6	10	1	5	9	13	4	8	12	3	7	11
Chuwen	Eb	Ben	Ix	Men	3	7	11	2	6	10	1	5	9	13	4	8	12
Kib	Kaban	Etz'nab	Kawak	Ahaw	4	8	12	3	7	11	2	6	10	1	5	9	13

Maya dates: multiplication and other tables.

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Maya dates: three Initial Series dates from Palenque.

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The Long Count

A separate calendar system widely known as the "Long Count" operated concurrently with the 260-day and 365-day rounds so far described. The Long Count was very different in its structure from these two cycles, presenting a more linear reckoning of days by means of a place-notation arrangement that expressed an accumulation of elapsed days from a set starting point in the distant past. The temporal scope of the Long Count was therefore much greater than the 260- and 365-day components of the Calendar Round. The three systems -- the Long Count, the 260-day round, and the approximate solar year cycle -- together constituted a "triumverate" of calendars used throughout the Maya history.

The standard Long Count has five units, each standing for a set period of time. These are, in increasing order, the *K'in* (the single day), the *Winal* (each equaling 20 K'ins), the *Tun* (18 Winals, or 360 days), the *K'atun* (20 Tuns, or 7200 days) and the *Bak'tun* (20 K'atuns, or 144,000 days). As we shall see, in writing Long Count dates in hieroglyphic form, the periods assume the opposite order, beginning with the Bak'tun and descending to the K'in. It can be seen that the system reflects the basic base-twenty structure of Maya numeration, with larger periods composed of twenty units of the next lower period. The exception to this pattern is the Tun, which is made up of 18 Winals (360 days), seemingly so as to approximate the solar year of 365 days. In the notation system, a numerical coefficient was assigned to each of these units to convey a certain amount of elapsed time from a specific starting date. A comparison to an automobile's odometer is perhaps apt, for the Long Count represented a perpetual accumulation of days.

Before we enter into a detailed treatment of the ways the Long Count calendar was presented in the hieroglyphic system, we might best understand its structure through a treatment of our own system of transcription. This was developed soon after the brilliant insights of Ernst Förstemann who, working nearly exclusively with the *Dresden Codex*, teased out the basic workings of the calendar system. Let us examine first a typical sort of date as we might transcribe it using Arabic numerals, with each part divided by means of a period (this is not at all related to the use of the period to express decimals in our own numeration):

9.14.4.17.15	7 Men	3 K'ank'in
Long Count station	260-day station	365-day station

First one will notice that we have given a Calendar Round date to the right of the five-digit Long Count. This reflects the standard ordering of elements as presented in the inscriptions, but more importantly it demonstrates the simple point that any and all Long Count dates have a corresponding position in each of the two components of the Calendar Round. The mathematical patterning of these systems necessitates that every Long Count date *has one and only one* Calendar Round equivalent. The corollary of this demands that a Calendar Round record such as "7 Men 3 K'ank'in" can have a *variety* of possible Long Count equivalents, given that any combination of 260- and 365-day statements will repeat every 18,980 days.

The five digits in 9.14.4.17.15 tell us that the date is 9 units of the Bak'tun, plus 14 units of the K'atun, plus 4 units of the Tun, plus 17 units of the Winal, plus 15 individual K'ıns or days. Another way of representing the precise quantities involved would be:

9(20 K'atuns) + 14(20 Tuns) + 4(Tuns) + 17(20 K'ins) + 15(K'ins)

If we convert these units simply to the number of days expressed by the named periods we have:

9 * 144,000 days + 14 * 7,200 + 4 * 360 days + 17 * 20 days + 15 days = 1,398,595 days

In its essence, therefore, the Long Count 9.14.4.17.15 expresses a total accumulation of 1,398,595 days from a specific base date when the system began its day-by-day reckoning. The Maya wrote this base date as 13.0.0.0.0, which fell on the Calendar Round 4 Ajaw 8 Kumk'u. The day after this was 13.0.0.0.1 5 Imix 9 Kumk'u, the next 13.0.0.0.2 6 Ik 10 Kumk'u, and so forth. In seventeen days the count reaches 13.0.0.0.19 10 Kawak 2 Pop, with the next day being 13.0.0.1.0 11 Ajaw 3 Pop. Notice here that the K'in number has reverted to 0 and that the Winal, the unit expressing the set of 20-days, now is 1. The system accumulates in this way up through the ever-increasing units of the Tun, K'atun amd Bak'tun. After 13 Bak'tuns, the number prefix reverts to 1.

Each of the five periods of the simple Long Count has its own distinctive hieroglyph, each found in several different variants, to which are added numeral prefixes to express the multiplier of each unit ("9 Bak'tuns, 14 K'atuns," etc.). Long Count dates in the inscriptions are easily recognizable, often because they open a text in what Alfred P. Maudslay dubbed an "initial series" (I.S.) of glyphs. The Initial Series is composed of six parts. First we encounter a standardized "introducing" glyph that like an initial capital is sometimes enlarged to mark the beginning point of a text. This is usually referred to as the Initial Series Introducing Glyph, or simply I.S.I.G. Following the I.S.I.G. we come upon the Long Count record itself, with the five-part system usually presented in five separate glyph blocks. Some examples show visual truncations, usually in connection with periods whose values are zero. In some cases these "null" places in the Long Count record can be skipped and omitted altogether..

The first examples are from texts from the Isthmus of Tehuantepec and the western highlands, where Long Count dates are written as a vertical set of five numbers, beginning with the Bak'tun period and ending with the K'in. As a true place-notation system, no period glyphs are ever shown in these earliest Long Count records. The first two are from non-Maya texts in the Isthmian or "Epi-Olmec" writing system, from which the Maya apparently borrowed the essentials of their calendrical notation system during the Late Preclassic era. The earliest date that shows period glyphs is Stela 22 from Tikal (A.D. 292), suggesting that their inclusion was primarily a lowland Maya phenomenon.

The term "Initial Series" is slightly misleading, for we find sometimes find such records inserted directly into a lengthy text, far from the initial point of a text. The back of Stela 31 from Tikal presents a good example of such an embedded Long Count, apparently used to feature the recorded date within the textual narrative.

The 13.0.0.0.0 4 Ajaw 8 Kumk'u "Creation"

The starting point for the standard long count fell on the day recorded by the Maya as 13.0.0.0.0 4 Ajaw 8 Kumk'u. This date appears in a great many inscriptions, described as when "the 13th Bak'tun ended," and is a Long Count date on Stela C of Quirigua. No obvious explanation comes to mind as to why the end of 13 Bak'tuns constitutes a starting point for the Long Count calendar, and the question has been a point of much discussion among Mayanists for many years. Clearly, however, 4 Ajaw 8 Kumk'u was considered the point at which the cycles of the Long Count began their slow, day-by-day accumulation of time toward the current era. A date recorded on the Tablet of the Foliated Cross at Palenque states that two Bak'tuns later was the completion of two Bak'tuns in the Long Count, or 2.0.0.0.0 2 Ajaw 3 Wayeb, confirming that 13.0.0.0.0 4 Ajaw 8 Kumk'u served as a conceptual "zero" date for the five-period system. The very next day would be 13.0.0.0.1., with a single Bak'tun later being expressed as 1.0.0.0.0. The use of the thirteen prefix as a functional zero will be seen again and again when we discuss the mechanisms of the Grand Long Count. At any rate, knowing the precise number of days expressed by the Long Count dates, we can reckon backwards and assign this starting day to our own 13 August, 3114 B.C (Gregorian), in the modified GMT correlation (584285). Several inscriptions record the great completion of 13 Bak'tuns on 4 Ajaw 8 Kumk'u (13.0.0.0.0), with the more complete description of the event coming from Palenque and Quirigua.

The Grand Long Count and Concepts of Deep Time

The standard Long Count using five periods clearly was an adequate mechanism for the precise tracking of time in the vast majority of circumstances. Even so, the five periods from the K'in to the Bak'tun was limited for the recording and computing of very large time intervals. The largest amount of elapsed time that could be recorded by the standard Long Count was 19.19.19.17.19, or 2,879,999 days. In certain ritual or mythical texts, however, Maya scribes felt the need to compute greater time amounts -- sometimes very much greater -- and in these records and calculations they employed time periods above the Bak'tun. The standard five-part Long Count is, in fact, a truncated version of a larger system composed of (at least) twenty-five periods I will call the "Grand Long Count." The standard Long Count constitutes the last five parts of this greater arrangement.

Several of the period glyphs just above the Bak''tun have long been known, but the majority of these vast time units are today nameless. Just above the Bak'tun is the Piktun (20^3 Tuns), followed in turn by the Kalab'tun (20^4), K'inchiltun (20^5), and Alautun (20^6). Given that an additional *sixteen* units existed above the Alawtun, we may quickly appreciate the truly vast time intervals that the Grand Long Count encompasses. The highest known period, for which we have no name, stands twenty places above the Bak'tun, and thus is equivalent to 20^{22} Tuns. As with any other time period of the Long Count, the addition of a numerical coefficient (1-19) to this single period indicates its multiple in turn.

Only two records of the full Grand Long Count are known to exist, both from the site of Coba. There, on Stelae 1 and 5, Initial Series dates record the "era" date 13.0.0.0.0 4 Ahau 8 Kumk'u in the following way

13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.0.0.0.0 4 Ahau 8 Kumk'u

This is a *complete* Long Count, chronologically identical to the standard but reduced record using five periods. This is confirmed by one inscription at Yaxchilan that makes use of a truncated record of the Grand Long Count, including only eight periods above the Bak'tun. The date is written

13.13.13.13.13.13.13.13.9.15.13.6.9 3 Muluk 17 Mak

This is simply an extended way of writing the more standard 9.15.13.6.9 3 Muluk 17 Mak, a historical date of a ritual ballgame performed by the local ruler Bird Jaguar IV. All Long Count dates of Maya history using five numbers can likewise be considered as abbreviated forms of a vastly larger record of elapsed time.

The Grand Long Count

Period	Number of Days	Number of Tuns (x 360 days)
+19	754,974,720,000,000,000,000,000,000,000	2,097,152,000,000,000,000,000,000,000
+18	37,748,736,000,000,000,000,000,000,000	104,857,600,000,000,000,000,000,000
+17	1,887,436,800,000,000,000,000,000,000	5,242,880,000,000,000,000,000,000
+16	94,371,840,000,000,000,000,000,000	262,144,000,000,000,000,000,000
+15	4,718,592,000,000,000,000,000,000	13,107,200,000,000,000,000,000
+14	235,929,600,000,000,000,000,000	655,360,000,000,000,000,000
+13	11,796,480,000,000,000,000,000	32,768,000,000,000,000,000
+12	589,824,000,000,000,000,000	1,638,400,000,000,000,000
+11	29,491,200,000,000,000,000	81,920,000,000,000,000
+10	1,474,560,000,000,000,000	4,096,000,000,000,000
+9	73,728,000,000,000,000	204,800,000,000,000
+8	3,686,400,000,000,000	10,240,000,000,000
+7	184,320,000,000,000	512,000,000,000
+6	9,216,000,000,000	25,600,000,000
+5	460,800,000,000	1,280,000,000
+4 (Alawtun)	23,040,000,000	64,000,000
+3 (K'inchiltun)	1,152,000,000	3,200,000
+2 (Kalabtun)	57,600,000	160,000
+1 (Piktun)	2,880,000	8,000
Bak'tun	144,000	400
K'atun	7,200	20
Tun	360	1
Winal	20	
K'in	1	

For pp 25 - 74:

See: 2005 XXIX Pot Glyphs (Short), pp 1 - 41

Glyphs on Pots
Decoding Classic Maya Ceramics

Materials for presentations by David Stuart, Barbara Macleod, Yuriy Polyukhovich, Stephen Houston, Simon Martin, and Dorie Reents-Budet

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March 11-16, 2005

Glyphs on Pots:
Decoding Classic Maya Ceramics

Contents

Part I. Historical Background

David Stuart

The study of glyphs on Maya pottery more or less parallels the advances in Maya decipherment over the past two decades. In fact, one could easily make the case that the rapid progress in the decipherment in the 1980's and early 90's was driven by the detailed analysis of repetitious and highly formulaic pottery texts. When the same words are written by hundreds of scribes over several centuries, the variations and substitution patterns are bound to reveal the basic workings of the script. The patterns that led to the "code breaking," as it were, were relatively easy to spot within such a well-defined and restricted environment.

Of course, the seminal work in the structural analysis of pottery texts goes back to Micheal Coe's *The Maya Scribe and His World* (1973) wherein he identified of the so-called "Primary Standard Sequence" (what many simply call the "PSS"). Mike was not able to read the PSS inscriptions at that time, but he set the stage for all later structural and phonetic analyses. He simply noted that Maya pottery often bore the same glyphs over and over again, and in a fairly rigid order of appearances. Some were long and some were short, but all of the inscriptions followed a standard and discernable arrangement. Mike continued to study the PSS through more and more examples that he published in several other catalogs of Maya pottery – all considered classics in Maya art and archaeology. Throughout this time, in the 1970s and early 80s, the stimulus for the study of art and writing on Maya ceramics was Justin Kerr, who was steadily compiling his now famous photographic archive (see www.mayavase.com). Together, Mike and Justin laid the foundation for all work on Maya pottery, and it should become clear to all that this in turn had profound effects on Maya decipherment and iconographic interpretation in general.

Another key publication in this time was *The Maya Book of the Dead*, by Francis Robicsek and Donald Hales. The interpretations within have not necessarily stood the test of time, but again it was the countless images by Justin and others that gave epigraphers and iconographers the raw material for making advances. I well remember Linda Schele, Peter Mathews and I sitting on a couch in San Cristobal de las Casas in 1981, pouring our eyes over every page and coming up with several exciting observations. By the mid-80s, enough examples of the formulaic texts on pottery had been compiled to make important strides in decipherment.

The story of deciphering glyphs on pots begins a few years earlier, with Peter Mathews' seminal discovery of a hieroglyphic nametag on a jade earspool from Altun Ha, Belize. He noticed one phonetically transparent glyph **u-tu-pa**, which he read as *u-tuup*, "her earspool." John Justeson soon noticed precisely the same term on jades from Chichen Itzá, and in 1982, I noticed that many of the bones from Burial 116 at Tikal bore

the glyph **u-b'a-ki**, for *u-b'aak*, "his bone." From this it seemed that other such possessed nouns could be found on different sorts of artifacts.

As we now know, ceramics are the most common examples of this practice. In the mid-1980's, Steve Houston and Karl Taube noticed that a few painted plates bore the possessed noun **u-la-ka**. As luck would have it, *lak* is a widespread Mayan term for "dish" or "plate." By structural comparison with other ceramics, it quickly became apparent that liquid containers were marked by the so-called "wing-quincunx" first noticed by Mike Coe over a decade earlier. This, it was clear, was the possessed noun for something like "vase" or "cup," but without good readings for the prefix and the wing sign, the precise reading was left hanging. The phonetics soon became clear with contributions from Barbara Macleod and Brian Stross, who suggested a reading based on an instrumental noun derived from *uk'*, "to drink." It was clear by the mid 80's that a good number of glyphs on pots were in their essence name tags for the objects themselves – some simple, some curiously elaborate.

Another advance around this time was my identification of the glyph for "chocolate" on numerous vessels, read as the recognizable word *kakaw* (**ka-ka-wa**). In fact, Lounsbury had much earlier identified a *kakaw* glyph in the Postclassic codices, but its form was very different from the familiar "fish" in the Classic period pottery texts. This lead to the realization that many of the glyphs following the possessed noun ("his/her cup") were, if not a personal name, often specifying the contents intended for the vessel. This chocolate identification saw welcome confirmation in 1984, when excavations in Río Azul, Guatemala, revealed a "lock-top" jar with two *kakaw* glyphs. The caked residue of the vessels interior was identified by chemists in Hershey, PA (where else?!) and good markers of *theobroma cacao* – the native form of chocolate cultivated in the New World tropics, and relished by elites throughout ancient Mesoamerica. Steady advances showed that chocolate was not the only beverage for which decorated cups were used. Another of Barbara Macleod's insights was the reading of the "atole" (*ul*) glyph, common on a number of low bowls. Today. a good deal of work still remains to be done on the descriptive terms for chocolate and other specified vessel contents.

Many pottery texts show several glyphs before the "name-tag," and these long stood as a source of frustration for the few epigraphers then working on it. One of the fairly consistent glyphs was what Coe called the "fire-imix" combination. In 1984, James Fox and John Justeson identified a similar glyph in the *Madrid Codex* as spelling **tz'i-b'i**, for *tz'ihb'*, 'to write, paint." I saw that the same word was quite common in the troubling "preamble" of the PSS, and saw that it could be alternatively written as **tz'i-ba**. It seemed, then, that "paint" was a common term, perhaps simply modifying the noun being possessed, as in "painted is his cup…" This supposition was quickly confirmed, when I noticed that the term *tz'ihb'* alternated on some vessels with the so-called "*lu*-bat" glyph, but only on glyphs that were carved, molded, or incised. It seemed, then, that the *lu*-bat must therefore semantically cover a range of meanings like "carve, etch, incise, etc." Confirmation came within months with the revelation of the so-called "Emiliano

Zapata Panel," a fragmented tablet from Palenque that depicts a man carving a stone object; the verb in the accompanying text is the *lu*-bat.

Other important efforts focused on the very first glyphs of the PSS, what Coe called the "introducing glyph" as well as various verbs that seem to describe what the vessels actually "do." The most common opening verb was written as either the head of the old God N or as a step with an ascending footprint – clearly variants of the same thing. Remarkably, the same verbal constructions appear on a very wide-range of objects and monuments, and it seems quite clear that we are dealing with a highly formalized dedicatory formula used by scribes to mark the activation of precious things and monuments. To study glyphs on pots, one must study the tradition of writing on a wide variety of artifacts.

Many epigraphers have contributed to the gradual accumulation of knowledge over the last quarter century or so, and many contributions we will discuss in the weekend Hieroglyph Forum. As we will see, many fine-points still remain to be resolved about the PSS inscriptions, but it is safe to say that we understand its basic intent: to mark ownership of important ritual objects. In more elaborate examples, it records the dedication date and manner of decoration of the object itself. Within the courts in which these objects were manufactured, such inscriptions were extremely important in marking social and political relationships among members of the nobility. Pots, jewels of jade and shell, bone implements, as well as cloth mantles, were the "stuff" of the palace economy dominated by patterns of gift exchange and tribute. When we read nametags and markers on pots, we are in a real sense looking into the inner workings of Maya palaces and courts, and the interpersonal relations that defined them.

In our presentations and discussions this weekend, we will spend some time looking at the dedicatory formulae of Maya pots and other related objects. This may be of interest for those of you who wish to see the nuts-and-bolts of Maya epigraphic research, but it will also be important to step back and view these artifacts in their larger social, political and religious settings. The questions are deceptively simple: How were the inscribed vessels actually used? Why were polychrome ceramics produced and distributed within a fairly short span, and in a fairly restricted region? Can we tie them to specific sorts of ritual activities within the court and beyond? As prized and gifted objects among elites, how do their designs and distributions reflect the social and political relationships of the time? Why do they bear the designs of history, myth, and (as I hope to argue at the Hieroglyph Forum) more macabre aspects of rulership and sorcery?

A Change in Terminology

Since Coe's definition of the "Primary Standard Sequence" in 1973, Maya epigraphers have grown accustomed to the "PSS" label for the familiar rim texts on pottery and their counterparts on many other kinds of objects. Here at the 2005 Maya Meetings I would like to suggest a change, proposing that we call them examples of the *Dedicatory Formula*. This more accurately describes the function of writing on these varied sorts of objects, and is a bit easier on the ear and tongue as well.

Part II. Selected Topics

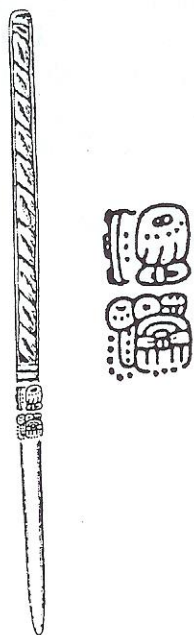
David Stuart

1. Tagging Objects

To place the inscriptions on vessels in their proper context, we should look at the wider and probably very old tradition of marking the ownership of important valued objects. Glyphic inscriptions on all sorts of objects made of bone, shell, jade and ceramic bear name tags specifying the name of the owner. As one might imagine, the structure of these sorts of texts can be very simple, no more than stating "so-and-so's bone." many ceramics are marked in this way, too, as in "so-and-so's plate."

A few examples illustrate this old tradition of Maya scribal practice:

The two jade earspools from Altun Ha, Belize, (just one is shown here) show a text that begins with **U-tu-pa**, which Peter Mathews demonstrated to be the spelling of *u-tuup*, "her earspool." The second and third glyphs provide the name of the woman who owned them.

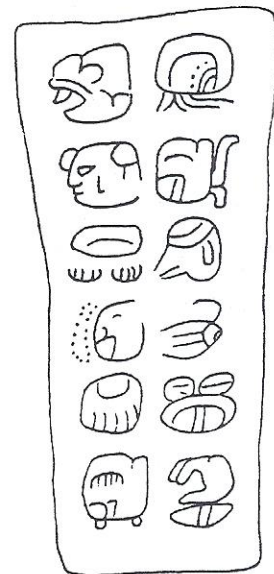
We find the same tag used on some jades recovered from the cenote at Chichen Itza, a pattern first noticed by John Justeson.

Simlar to the simple tags on jades is the expression **U-b'a-ki** on a series of bones excavated at Tikal.

u-b'aak K'uhul Mutul Ajaw
The bone (object) of the Holy Mutul Lord

TIK: Miscellaneous Text 181 (drawing by A. Seuffert)

Tikal Burial 196 MT 181

Also from Tikal (according to Tatiana Proskouriakoff's notes) comes this inscribed jade, bearing the initial tag **U TUUN-ni**, for *u-tuun*,"her jade." Although it means generally "stone" in most modern sources, *tun* is specifically in the colonial *Diccionario Motul* (Yukatek) as "piedra preciosa"

(Drawing by D. Stuart)

Tagged objects are found nearly everywhere, on a seeming endless variety of things. Some terms for types and categories of objects remain poorly understood or not deciphered at all. A good example of an opaque label is found on this bone, probably looted from a tomb at Naranjo (the owner, named in the final three glyphs, is a known ruler of that kingdom). The initial glyph is simply **u-ja-cha**, for *u jach*, "his *jach*." Often this is spelled **ja-chi**, for *jaach*, and a variation on the overall term is *jaach bak*, "his/her *jaach* bone." The meaning of *jach* requires further research and discussion.

(drawing by D. Stuart)

Naranjo Bone Looted X

2. The Dedication Formula

More often than not, Maya scribes wanted to mark the ownership of valued things in more formal statements and sentences. For this they developed at some unknown early date a highly rigid and repetitious text formula that could include a date, a verb, and mention of how the object was decorated (carved or painted being the two main options, it seems). This is what we find on hundreds of Maya ceramics, in the highly repetitive series of glyphs that Michael Coe first recognized, and called the "Primary Standard Sequence." In the mid 1980s, it became clear that the same written formula graced any number of object categories, ranging from small portable accoutrements and objects to much larger monumental buildings and spaces. If a thing large or small could be associated with a particular individual lord, then it could conceivably take on this sort of marking – what I prefer to call simply the "Dedicatory Formula." In its most complex form, the Dedicatory Formula could have a date and an event referring to the manufacture or presentation of the named object.

We will learn more about the varieties of this Dedicatory Formula as well as its internal breakdown, but for now we can look over its widespread use on a number of different media. In my view, the Dedicatory Formulae represents a very archaic and elemental scribal genre within Classic Maya culture – probably much older than the narrative content we find in later historical inscriptions.

Oxkintok Shell Pendant

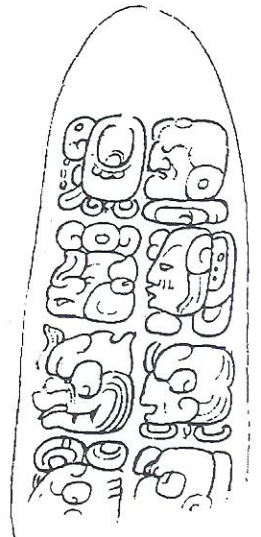
Oxkintok shell pendant (drawing A. Lacadena)

A Shell from Oxkintok, Yucatan

This drawing is of an engraved shell pendant from a royal tomb excavated at Oxkintok, Yucatan, by the late Ricardo Velasquez. Notice that the initial five glyphs reproduce the PSS exactly in its structure. The term for the object (written in the sixth block) is different, as one might expect: *ik'nal*, apparently a Classic word used for shell pendants, found also examples from Tikal and elsewhere.

A Celt from Quirigua

This inscribed greenstone celt, said to have been recovered in a field near Quirigua, we find the Dedication Formula based on the possessed noun **U ka-ya wa-ka**, *u kaywak*, "his *kaywak*." Evidently, *kaywak* was an ancient term for "celt," known from a handful of other examples (the word was likely derived in part from on *kay*, "fish.").

The drawing is a preliminary sketch of the celt's back, based on a rubbing. the front depicts a standing warrior in profile, holding a round shield and a K'awiil sceptre.

(drawing by D. Stuart)

Quirigua Celt Greenstone

On Clothing

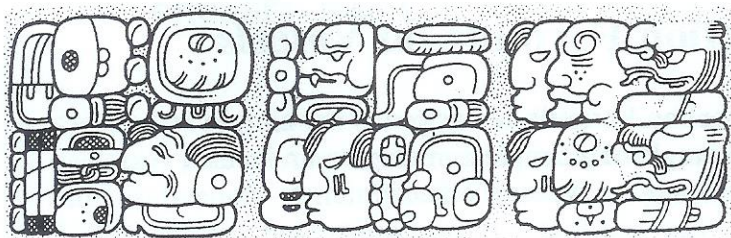
Bonampak Murals, Room 3, textile inscription
(drawing by S. Houston)

Even clothing could be inscribed with the Dedication Formula. In the paintings of Bonampak, some of the skirts and mantles worn by nobles bear hieroglyphic texts that are virtually the same as what we find on pottery. Unfortunately, in these handful of texts we never see the word for "skirt" or "clothing," since tthe words are always obscured or hidden.

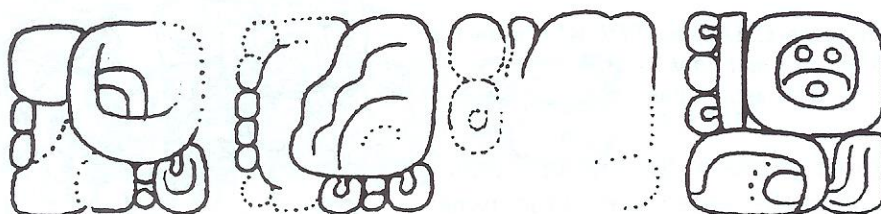
We can easily trace the Dedicatory Formula to large-scale monuments, architectural features, and even large buildings.

In this image of a lord seated on a throne, we see several badly preserved glyphs on the face of the seat. Enough remains to read the text as a Dedicatory Formulae based on the possessed noun *u-teem* (**U-te-mu**), "his throne."

A similarly inscribed throne was excavated by J. Eric S. Thompson as San Jose, Belize. The glyphs there are in stucco, and again mark the monument as a *teem*.

from K1524

In this text from Lintel 25 at Yaxchilan, the Dedicatory Formula centers on the possessed noun *y-otoot*, "her house."

(drawing by I. Graham)

Stela 2 from Lagunita, Campeche

Lagunita Stela 2

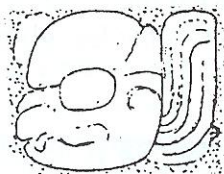
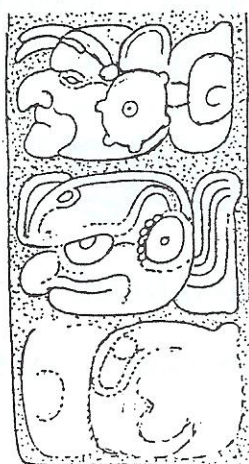
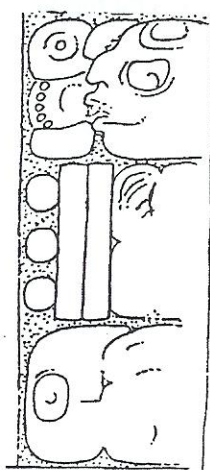
(drawing by D. Stuart, based of field sketch by E. Von Euw)

The little known site of Lagunita or La Lagunita, Campeche, was visited by Eric Von Euw in the 1970s, when he recorded a stela with this interesting Dedicatory Formula. The object is simply called the "his carved 6 Ajaw Stone." The stela dates to the K'atun ending 9.14.0.0.0 6 Ajaw 13 Muwan.

Hieroglyphic Panels from Pomona, Tabasco

Pomona, Hieroglyphic Panels 1 and 4 (Field drawings by I. Graham)

Pomona Panel B

Pomona Panel 4

This excerpt from a series of inscribed stone panels at Pomona offers another good example of how the placement of stone monuments could be commemorated through the dedicatory formula. The date is 9.13.0.0.0, and the subject of the God N verb is "the 13 K'atun Stone." The text closes with the two glyphs simply stating "it is his stela." That is, a stela or some other major monument is dedicated on the Period Ending.

3. The Dedication Formula on Vessels

On vessels, we find the Dedication Formula can assume very simple and very complex formats. Here is a good example of a simple nametag on an incised vessel using the same format we saw earlier on other types of objects:

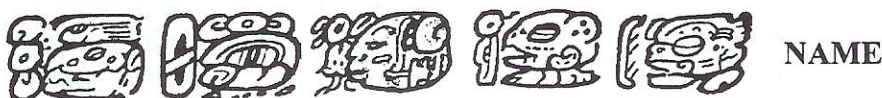
(a) POSSESSED NOUN – NAME

yu-k'i-b'i b'a-je wa-CHAN-na-TOOK' b'a-ka-b'a
(u)y-uk'ib' b'aje.. ? Chan Took' b'akab'
the drinking cup of B'aje..? Chan Took', the b'akab'

The final three glyphs of the caption, running vertically, name the seated lord as the owner of the vessel. This is the simplest type of inscription on a vessel, although the terms for the objects can of course vary with the form of the vessel. As described below, a common nametag on plates, for instance, is *u-lak*, "the plate of:.." (see "Terms and Types of Vessels").

K7669

(b) POSSESSED NOUN – PREPOSITIONAL PHRASE – NAME

On pottery texts a prepositional phrase can intercede between the possessed noun and the name of the owner, describiung what the vessel was used for ("his cup for ..."). The name of the person (not illustrated) follows the last glyph (*kakaw*).

NAME

yu-k'i-b'I TA-yu-ta-la IXIM TE'-e-le ka-ka-wa NAME
(u)y-uk'ib' ta y-ut-al iximte'-el kakaw NAME
His drinking cup for his food/drink "maize tree" cacao ... NAME

(c) (DATE) – VERB PHRASE - POSSESSED NOUN (- PREPOSITIONAL PHRASE) - NAME

On pottery and many other types of dedicated objects, the possessed noun for the item is regularly preceded by some verb or verb phrase referring to the object's dedication or ritual activation. A number of different verb glyphs can serve this role (see "Dedication Verbs" below), but the most prominent is the "step" (and its "God N" equivalent). Although its phonetic reading is not completely certain, it probably means "to go up, ascend," referring to the presentation of the object to a ruler or noble in a court setting. Also basic to this introductory verb phrase is the initial glyph recently read as *alay* by Barbra Macleod and Yuriiy Polyukhovich.

NAME

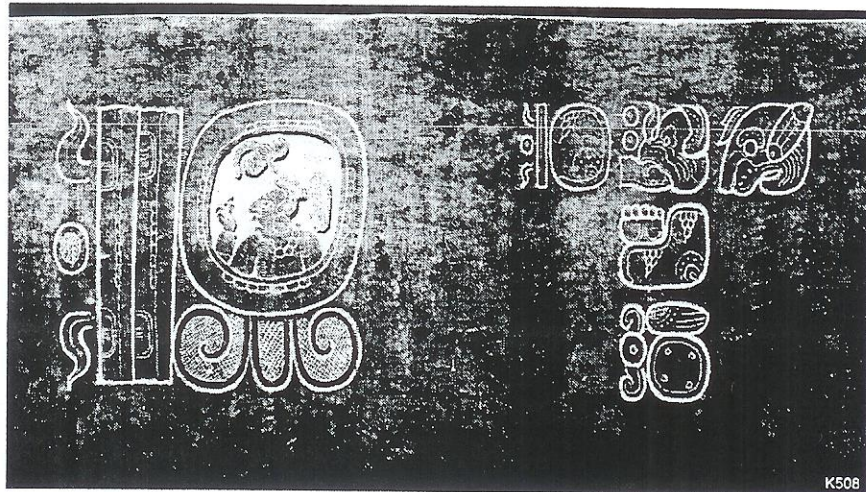
a-ALAY T'AB'-yi yu-k'i-b'i NAME
alay t'ab'-ay (u)y-uk'ib' NAME
Here ascends the drinking cup of… NAME

Often the text can be further elaborated by mentioning the mode of decoration on the surface of the object. This appears directly after the verb and before the possessed noun. Only two options are known: "painted" or "carved, modeled" (see "Painted or Carved?" below), and often this takes the suffix **-na-ja.**

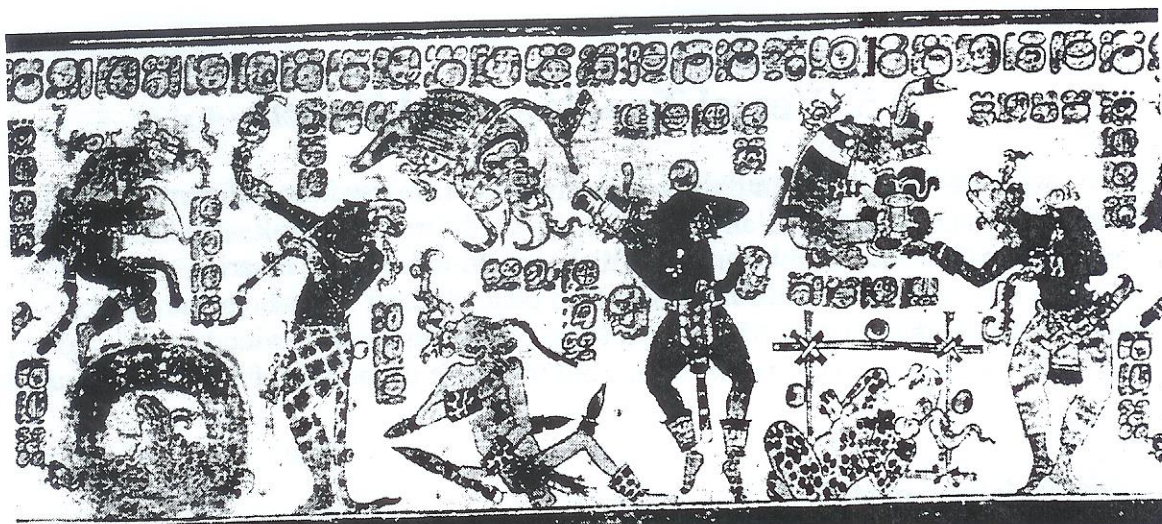
NAME

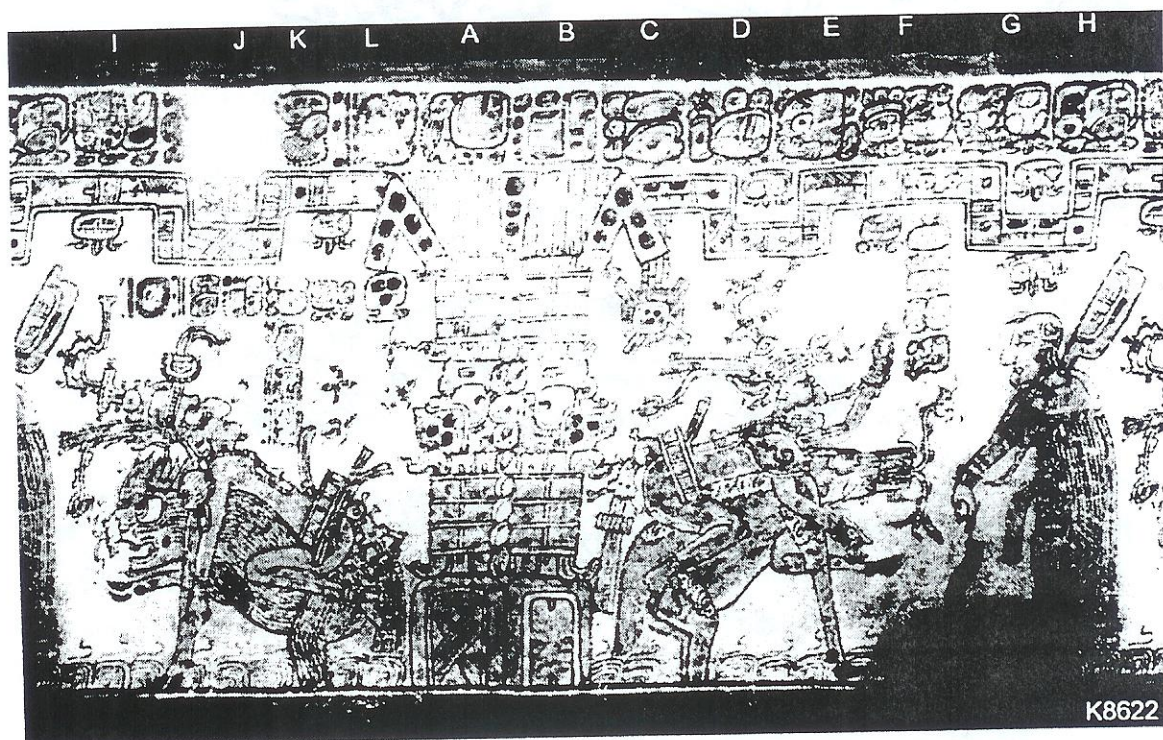
a-ALAY T'AB'-yi U-tz'i-b'i na-ja yu-k'i-b'i TI-u-lu NAME
alay t'ab'-ay u-tz'ib-n-aj(-al) (u)y-uk'-ib' ti ul NAME
Here ascends the painted drinking cup for atole of NAME

4. Vessel Dedications as History

As important ritual objects, decorated and inscribed ceramics were important historical "actors" in the own right, commemorated in texts that tie them to specific times and places. Several dedicatory texts on pottery show Calendar Round dates, and stylistic traits of the painting or other clues sometimes allow us to place the objects firmly in history.

9.17.2.3.19 6 Kawak 2 Sotz' (in 11 Ajaw)
March 29, 773

A very simple example can be seen here on K508, a Late Classic incised and gouged vessel probably from Campeche. The large day sign cartouche is "11 Ajaw," and presumably it names a major Period Ending -- 9.18.0.0.0 11 Ajaw 18 Mak is a reasonable placement. The CR of the dedicatory text is different, written as 6 Kawak 2 Sotz'. If we assume that the "11 Ajaw" names the K'atun within which the CR fell, the result is 9.17.2.3.19 6 Kawak 2 Sotz', or 29 March, 773. The inscription continues with a standard formulae (the "step" verb is odd-looking, but recognizable) centered on *...y-uk'ib ch'ok*, "...the cup of the youth."

Another example, below, comes from the well-known vessel (K791) by the "Altar Vase" painter of the Ik' kingdom (around western Lake Peten Itza). Here the dedicatory text along the rim opens with the CR 4 Ix 12 Kumk'u, probably 9.16.3.13.14, or 18 January, 755.

K791

9.16.3.13.14 4 Ix 12 Kumk'u
January 18, 755

K8622

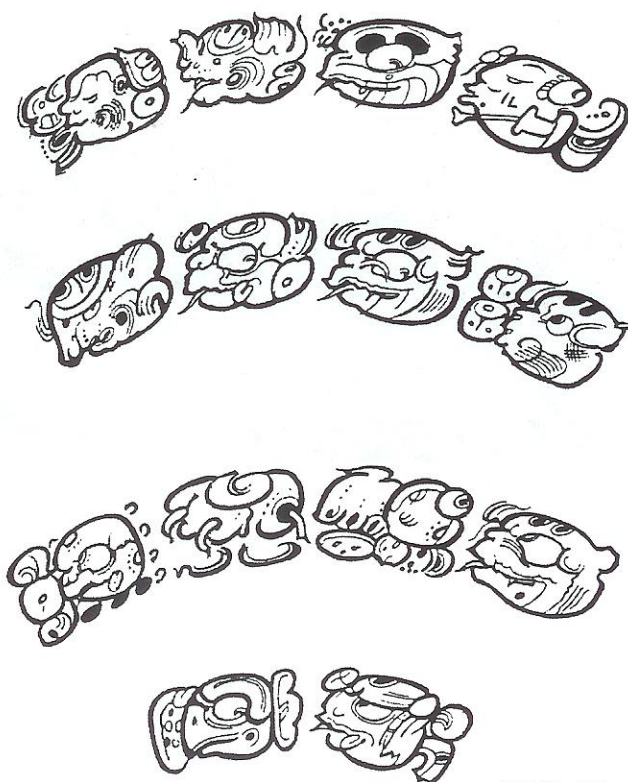
9.14.9.15.10 7 Ok 13 Yax
August 24, 721

5. Vessel Typology and Terms

At present we can identify several terms the Maya used for different types of ceramics vessels. In general, any tall cylinders used for cacao drink were called *uk'ib'*, "drinking cup," or *jaay*. Low plates and dishes seem to have had a variety of terms, including *lak*, "dish." and *jawante'*, for footed plates. There was also some overlap among these different terms. The examples presented in the following pages do not provide an exhaustive list of vessel terms, but they give us an idea of the basic variations.

u-lak, "his/her plate"

U-la-ka

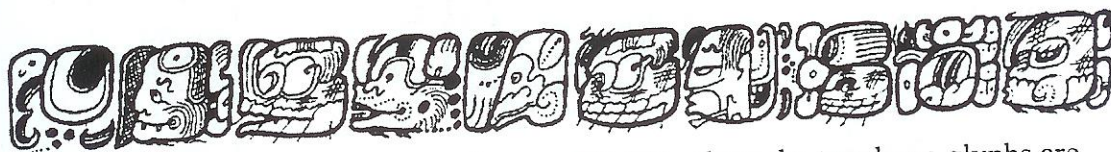
Plate from Tomb 4, Calakmul (drawing by Simon Martin)

Calakmul Tomb 4 Plate

y-uk'ib, "his/her drinking cup"

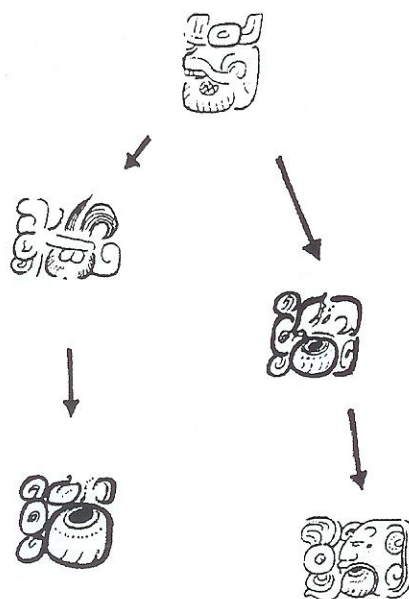
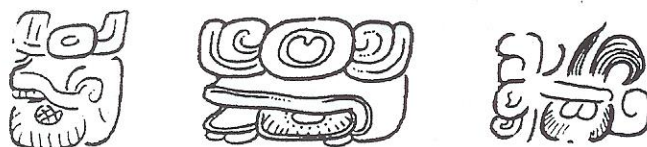
The most common term found on Maya ceramics, deciphered in the 1980s through efforts of Barbara Macloed, Brian Stross, and Stephen Houston. Usually this is presented as a sequence of three syllables: **yu-k'i-b'i**, giving the possessed instrumental noun *y-uk'ib'*, which is ultimately derived from the verb root *uk'*, "to drink." Sometimes **UK'** is written as a logogram showing a lower face with a "water" element in its mouth. Either way, the result is "his/her drinking cup."

u-jaay. "his/her cup"

The glyph **U-ja-yi** or (in rare late examples **U-ja-ya)** was recognized early on as a term for some sort of vessel, but the meaning of "his/her *jaay*" was for a long time a mystery to epigraphers. Sometimes *u-jaay* stands alone as a term for a vessel, as here (at right) on a Chochola style pot (K4463) probably produced at or near Oxkintok. The owner is a woman.

Elsewhere *u-jaay* can appear together with *y-uk'ib'*, suggesting a strong degree of semantic overlap with "drinking cup." For instance, on the rim text of the well-known "Regal Rabbit" vase (a.k.a., the "Bunny Pot") we see that *u-jay* (now with a short vowel cued by the synharmonic spelling **ja-ya**) immediately precedes *y-uk'ib'*

The same strong relationship appears here on K5466, where the two large glyphs are simply *u-jaay* and *y-uk'ib'*

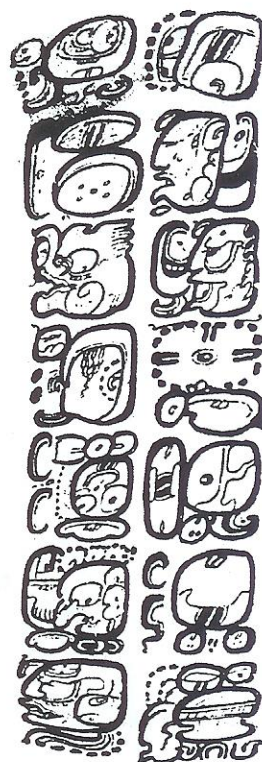
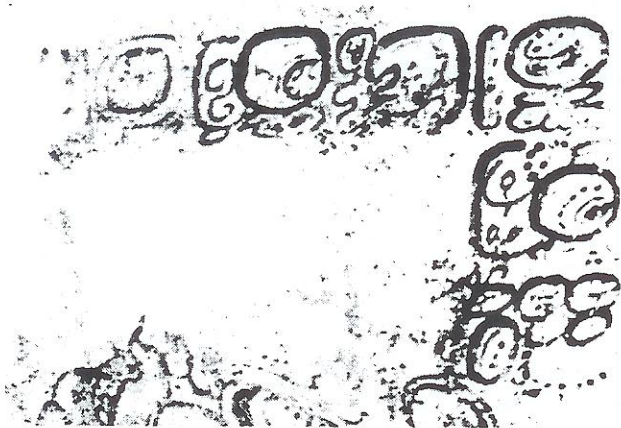
not in short version

Some Variants of *y-uk'ib'* "his/her cup"

Other simple pairings of *u-jaay y-uk'ib* are found on carved vessels in the Chochola style, but they seem to be common throughout the central lowlands.

The word *jay* appears in modern lowland languages as an adjective meaning "thin," which have led many to wonder if its use on Classic vessels is to highlight the fine thin walls of cylinder bowls. But the role of **u-ja-yi** glyph as a stand-alone noun would argue against this particular interpretation.

A welcome resolution to the meaning of the *jaay* glyph came in 1995, when Alfonso Lacadena noticed the following straightforward entry in Ulrich and Ulrich's Mopan vocabulary: *jaay*, "tazon de barro" (clay cup). Obviously this is our answer. When paired with the y-uk'ib label, the inscription reiterates "his clay vessel, his drinking cup..."

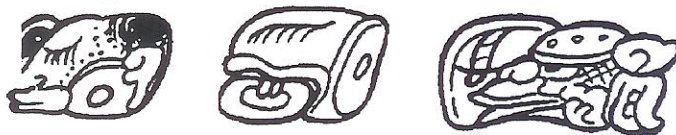
u jawante', "his/her footed plate"

The Late Classic plate on the preceding page goes by a different name **U-ja-wa-TE'**, possibly for *jawante'*. The term is found on several footed plates, but never on a simple dish (*lak*) without supports.
The text here records the dedication of the jawte' on the day "12 Ajaw," possibly a Period Ending of the Long Count. The owner was named *Yukul Chan K'awiil*, "Lord of Hixwitz."

Two details of texts painted on footed plates. Both make use of the term jawte', although the larger dedicatory formula in each case is a bit different. Note the

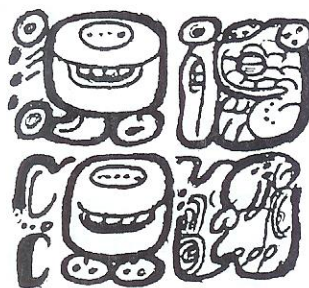
K4469

u-we-ib', "his/her eating thing"

Marc Zender has noted that two plates from the El Zotz or Uaxactun areas bear similar texts marking them as *we'ib'*, "eating vessels." These are highly restricted terms, apparently, and no other cases are known.

K6080

(drawing by M. Zender)

y-ajib'(?), "his/her ?"

A handful of plates bear the spelling **ya-ja-ji-b'i**, which is very difficult to analyze. Obviously it is another possessed noun, and the **–b'i** ending is likely to indicate an *–Vb'* instrumental noun ending. We are left with *ajaj* or *ajij* as the noun root, but this is semantically obscure. One possibility is that it is based on the verb *aj*, meaning "to awaken" –

A unique brush cleaner

K7786

Several years ago a remarkable vessel (K7786) came to light, inscribed with a unique dedicatory label. The low bowl is not called a drinking cup, but rather bears the glyph **u-po-ko-lo ch'e-e-b'u**, *u pokol ch'e'b'*, "his clean brush." It is likely a brush cleaner, owned by a scribe or artisan from a noble court of the eastern Peten district – perhaps even the master calligrapher who painted the vessel. The owner was named Ahk Nikte'. "Turtle Flower," and he was the ajk'uhun of a ruler of a site possibly named *Yootz* (**yo-tzi**) or possibly Yomootz (**yo-mo-tzi**). This unknown locale is mentioned in the texts of Naranjo and is presumably a ruin somewhere in the surrounding area (Holmul?).

Yootz Vase K 7786

alay t'abay utz'ibnaj(al) u-pokol ch'ehb Ahk Nichte' y-ajk'uhun K'ahk' Ohl Yootz Ajaw

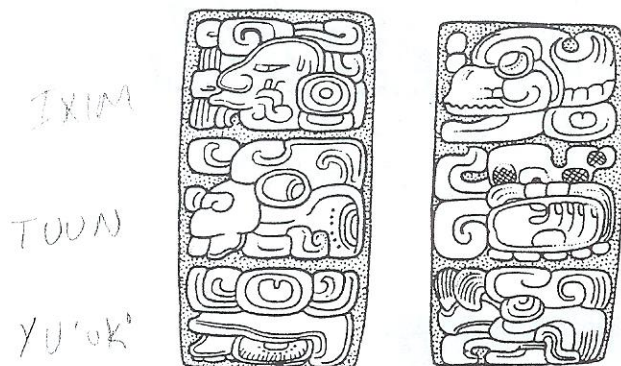
Here ascends the painted brush-cleaner of Ahk Nichte', the ajk'uhun of K'ahk Ohl the Holy Yootz Lord

6. Vessels with Proper Names

IXIM TUUN yu-UK'
²ka-wa K'AHK'-NEH-chi-hi XOOK

Ixim tuun y-uk'(ib')
(ta) kakaw K'ahk' (u-)neh chih xook

Maize Stone is the name of the cup for cacao of K'ahk' Unehchih Xook

Early Classic stone vessel, Santa Rita, Belize (drawing by D. Stuart, based on original by Steve Houston)

Santa Rita Corozal Str. 7 Bowl

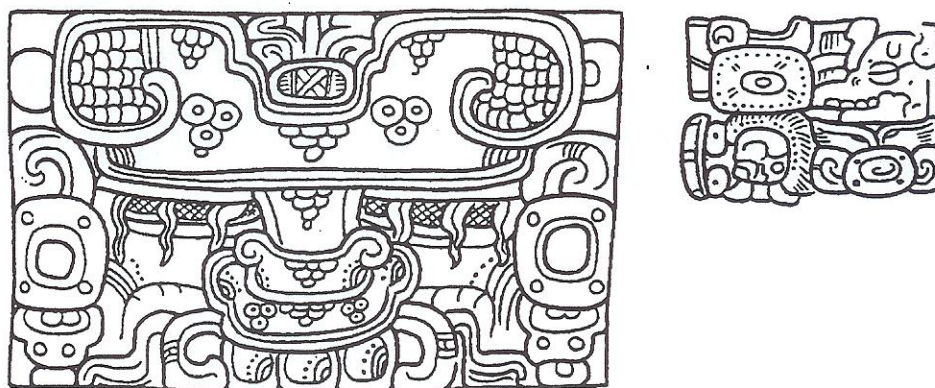
IXIM ja-yi U-K'ABA' yu-k'i-b'i
IXIM-TE' ka-wa 9-TZ'AK-b'u AJAW

Ixim jaay u-k'ab'a' y-uk'ib'
Iximte' kakaw B'olon Tz'akb'u Ajaw

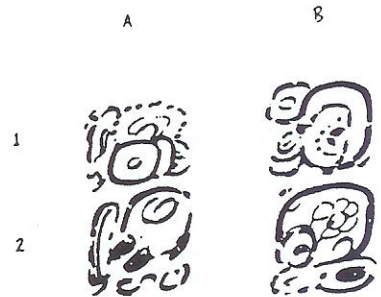
Maize Cup is the name of the drinking vessel for the maize-tree cacao of the Nine Ordered Lords.

Uaxactun, stuccoed tripod (drawing by D. Stuart, based on photo by M. Van Stone)

Uaxactun Vase Tripod 1

The drawing below is part of the decoration and text on a Tzakol footed cylinder from the Tikal region. It names the vessel as a "cave" named *Ho' Janahb' Ch'een*

7. Vessels as "Houses"

Oddly enough, "house" is a fairly common label on ceramic vessels and containers of various types.

Several so-called "poison bottles" are also described as "houses" in their hieroglyphic tags. For example, a small "codex style" flask bears the inscription *y-otoot u-may Ahk Mo'*. "It is the 'house' of the tobacco of Ahk Mo'."

We also find "house" used on plates, cylindrical vases and lided cache vessels., such as this important example from Tikal's Cache 198, in the South Acropolis. Contrary to some other interpretations, the "house" here must refer to the vessel, and not to the building in which it was deposited.

alay t'ab'ay(?) y-otoot k'uhunil b'olon tz'akb'uil ajaw Ehb' Xook Wak Chan ?

Here it ascends, the 'house of veneration'(?) of the Nine Ordered Lords, of Ehb' Xook, of Wak Chan ?. He venerates (them) (??) , Chak Tok Ihch'aak, the Tikal Lord

8. Overview of Drinks and Vessel Contents

Ritual drinks play a major role in ceremonies both large and small in traditional Mesoamerican culture.

Beyond simply tagging a vessel as "his/her cup" or "his/her plate," a common elaboration is the inclusion of a simple prepositional phrase after the possessed noun. The phrase, usually (but not always!) introduced by *ta-* or *ti-*, "for, with," specifies the kind of drink or food intended for the vessel. The phrases are fairly standardized over time and space, but they show some internal variation, and in some important words within them have defied translation. Much of the structural analysis of the Dedicatory Formula on pottery has concentrated on the readings of these glyphs, and some significant work no doubt remains to be done. Here is a sample of the common variety of drink descriptions we find, from simple to complex. Many of them contain still poorly understood terms. These will be discussed in some detail later on.

K3064

(1) *y-uk'ib ta kakaw* NAME, "so-and-so's drinking cup (for) cacao."

(2) *y-uk'ib' ta yutal kakaw* NAME, "so-and-so's drinking cup for *yut* cacao"

(3) *y-uk'ib ta iximte'el kakaw* NAME, "so-and-so's drinking cup for 'maize tree' cacao."

(4) *y-uk'ib ta tzih* NAME, "so-and-so's drinking cup for *tzih*"

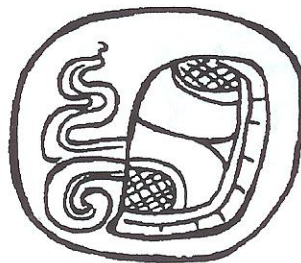
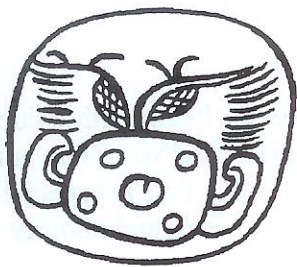
(5) *y-uk'ib ta tzih kakaw* NAME, "so-and-so's drinking cup for *tzih* cacao"

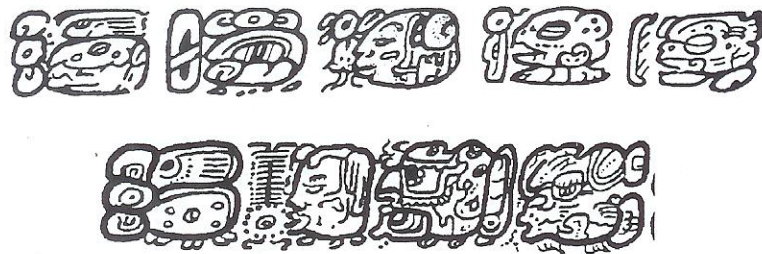
(6) *y-uk'ib ta tzih te'el kakaw* NAME, "

(7) *y-uk'ib ti tzih iximte'el kakaw* NAME, "so-and-so's drinking cup for *tzih* 'maize tree' cacao."

(8) *y-uk'ib ta yutal iximte'el kakaw* NAME

(9) *y-uk'ib ta ul* NAME

Not in short version

9. *Iximte'el kakaw*

By far the most common descriptive term for the chocolate contents of vessels is *iximte'(el) kakaw*. Here are a few selected examples of how we find this written, almost always after the "cup" glyph.

The meaning of this phrase is not so easy to figure out, but we can begin with evidence for the reading of the human-looking profile sign as the logogram **IXIM**. There is no doubt that the head we find in this phrase is that of the Maize God. This is especially clear in Early Classic examples, such as this one from MT 56 at Tikal, and another vessel from Uaxactun:

Two revealing examples show that the maize head can take the prefix **i-**, seemingly as a phonetic complement to its reading. The example at left is taken from the "Altar Vase," and another appears on K791, perhaps by the same artist. Given that no logogram had yet been identified such an important word, I proposed in 1995 that this is simply **IXIM**, "maize."

However, it is important to realize that the botanical term *iximte'* is not the same thing as *ixim*, "maize." In Mayan languages *iximte'* or *iximche'* can refer to a variety of different plants, some of them important in ritual or medicinal usage (Yukatek *ximche'*).

Simon Martin has recently offered the intriguing suggestion that *iximte'* should not be understood as a specific plant name – that is, as an additive to the cacao beverage. Instead he believes that *iximte' kakaw* was a more florid description for the precious fruit and its drink, linking it directly to the "maize tree" of sustenance. One good piece of

evidence comes from this Early Classic image of the "cacao god," who strongly resembles world like the Maize god with cacao pods attached to his body. The accompanying text simple labels him as *iximte'* (**IXIM-TE'** in the second block). Simon's more nuanced and conceptual analysis of the *iximte'el kakaw* phrase has a good deal of merit, and it may help to finally explain what has been a troubling term. Still, I wonder if more research into the botanical and medicinal properties of the plants today known as *iximte'* or *iximche'* may ultimately prove useful in our understanding of the glyphic phrase.

Drawing by Simon Martin

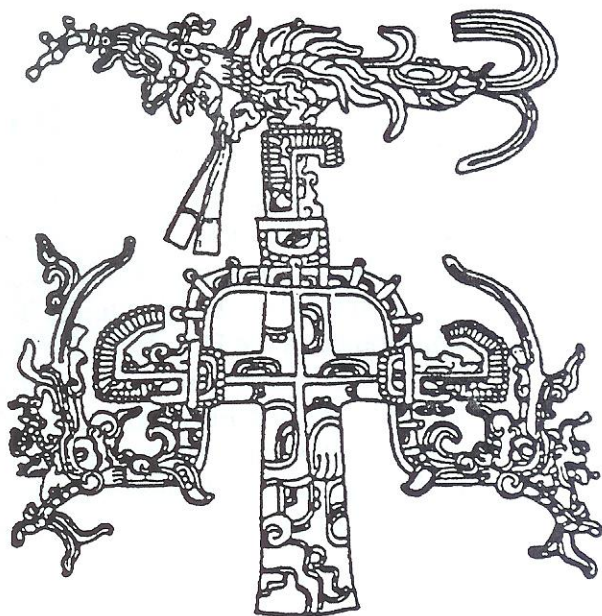
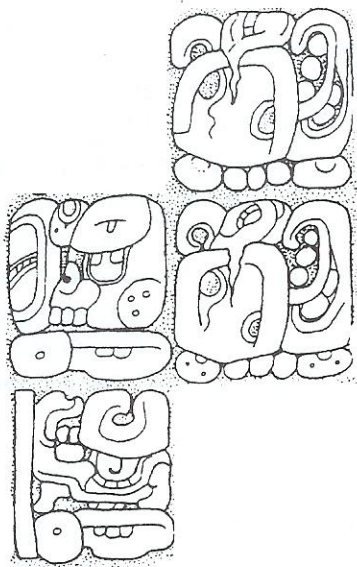
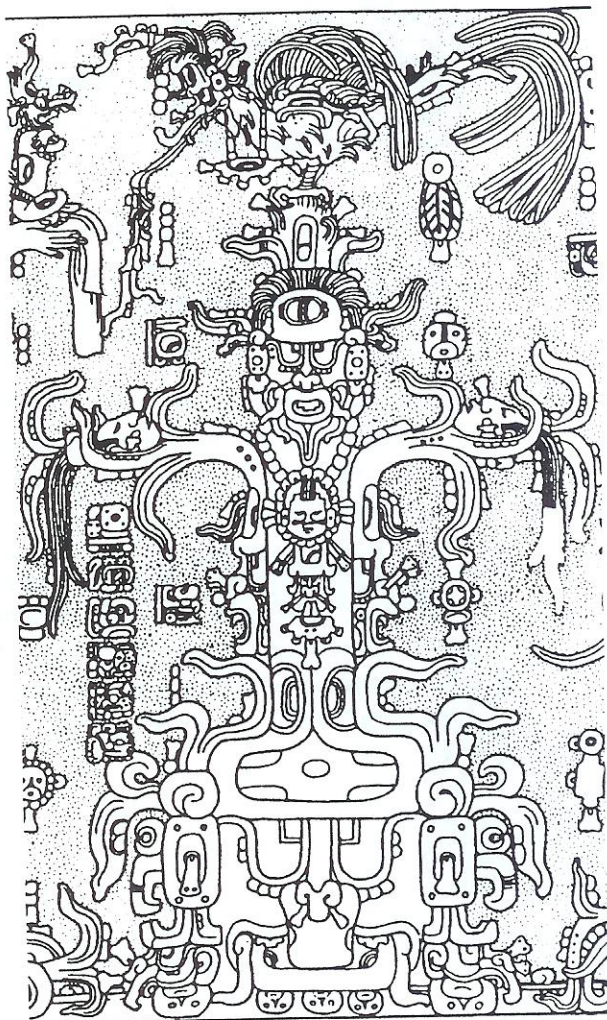
AA Kerr 4331

10. The Mythical Origins of Cacao

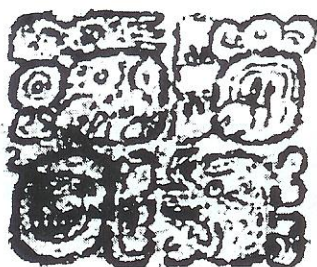
Tikal, MT 56

The Cosmic Plate as a "Holy Sprouting"

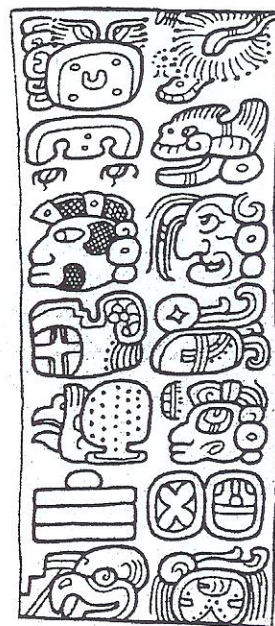
Emergence of the "Shiny Jewel Tree"
(The eastern tree of jade and wealth)

" Celt"-**UH-TE'**

Cacao and *K'an Nahb'* "the Precious Sea"

11. Rare Varieties of Cacao

The glyph for *kakaw* was first recognized by the late Floyd Lounsbury, and discussed in his now classic 1973 paper on what was then called the "Ben-Ich" superfix, where he correctly proposed its value as **AJAW**. In building his case for the reading, Floyd turned his attention to the T128 sign we today know well as **wa**, noting its appearance in the Dresden Madrid codices after the doubled sequence **ka-ka-**. The scenes associated with these glyphs consistently show deities holding bowls of fruit pods or seeds, leading Floyd to the sensible decipherment **ka-ka-wa**, "cacao."

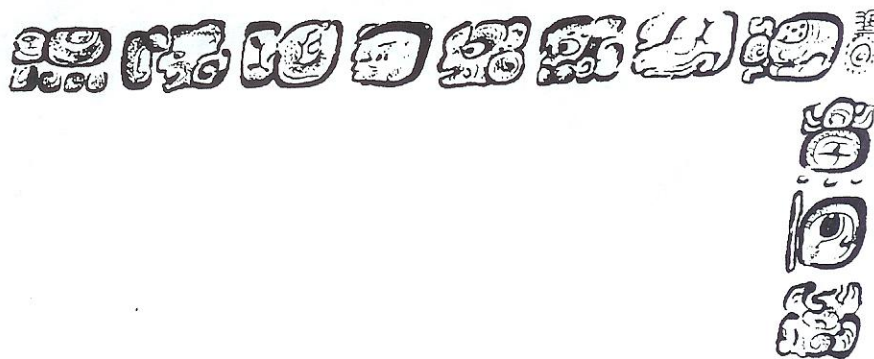
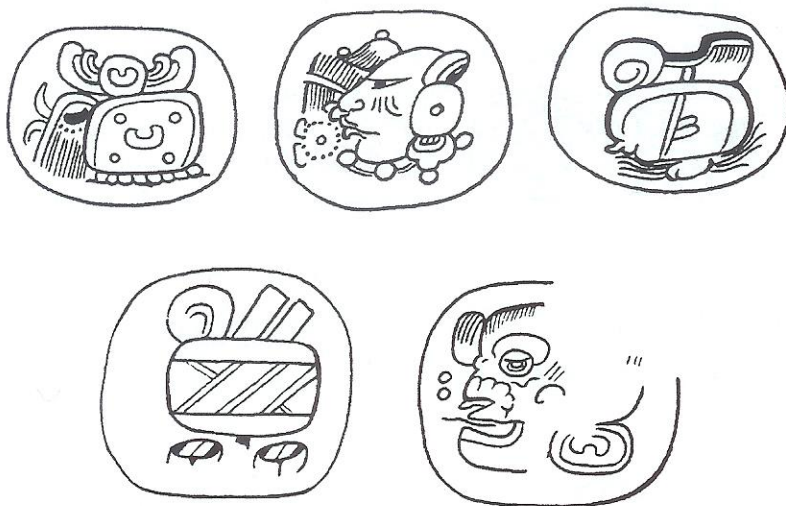
In the early 1980s I noticed another more common spelling of *kakaw* on Classic period ceramics. The glyph is always dominated by the fish head variant for **ka**, which can be read as a doubled sign or sometimes with the addition of a "comb" **ka**.

In this example (K625), we see that the standard *kakaw* glyph in the final block shown follows **K'AN-na**, in the full phrase *y-uk'ib' ta yut(al) k'an kakaw.* I know of no other examples of *k'an* as a modifier for chocolate, but in this instance it probably conforms to its attested meaning as "ripe." The full phrase would then read "his cup for (?) ripe cacao.""

On this Early Classic vessel text (K7529) the modifier is the Naranjo emblem. However, it seems equally plausible to think that the sign preceding *kakaw* refers is *sa'*, another type of drink (an additive?), as Nikolai Grube and Werner Nahm have suggested.

In the next three examples, we find a set of unique descriptors for *kakaw*, both again from Early Classic vessels. At right below is the main inscription from "The Deletaille Tripod", where in front of *kakaw* we see a sign of a snake passing through a flower (?) before **na-la.**

The vessel text above is from Río Azul, and is odd in describing two unusual varieties of cacao (**wi-ti-ki ka-ka-wa** and **ko-xo-ma mu-lu ka-ka-wa**)

The label at left contains a unique modifier before *kakaw*, in the glyph at upper right.

K1446

Local varieties of cacao may be indicated in a handful of cases, where place names seem to precede the *kakaw* glyph. Only two such place names are known to me, Naranjo and Ixtutz. Here we have an example of the Ixtutz emblem main sign (**5-KAB** or *Ho'kab'*) before *kakaw*.

K4681. The painter of this vessel also painted K8245, where we find a similar *ho-kab'* glyph before *kakaw*.

K7529

(drawing by D. Stuart)

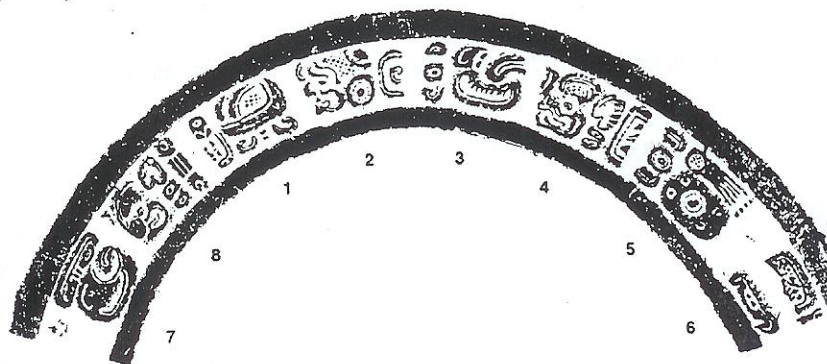
An Early Classic vessel from eastern Peten has a modifier on *kakaw* that may be read *sa'*. Alternatively, this may be the Naranjo emblem glyph, another toponymic label marking the chocolate as being from "Naranjo."

12. *Ul*, atole (maize gruel)

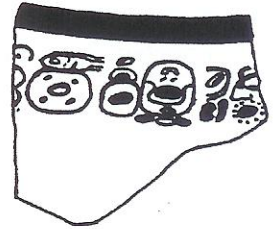
Barbara Macleod first deciphered the glyph for "atole," spelled simply as **u-lu**. It is not as common as *kakaw* on ceramics, but its regular appearance shows that atole was an important beverage within Maya court, though perhaps not so ritually significant and *kakaw* drinks.

Without exception, atole vessels are shallow bowls, either rounded or with flat bottoms, as in the example shown here above. The *ul* glyph is never to my knowledge found on the tall cylinder forms reserved for chocolate concoctions, nor does it appear on vases decorated with very elaborate iconography.

alay t'ab'ay u-tz'ib'naj(al) y-uk'ib' ti ul

alay tz'ib' naj-ich y-uk'ib ta ul

y-uk'ib ta k'an ul, "it is his/her cup for ripe atole" (rubbing courtesy of Seichi Nakamura, Proyecto La Entrada)

13. What is *tzih*?

A common but poorly understood glyph is **tzi-hi**, sometimes simply written as **tzi** or logographic **TZIH**. Vessels that are said to be "for *tzih*" are especially common in the painted cylinders of the northeastern Petén, from workshops in the area of Xultun and Río Azul, among others. A good example is shown here at right, excavated at Río Azul, showing the tag "his cup for *tzih*" followed by the local polity or toponymic title.

Río Azul sherd (courtesy of Fred Valdez)

A few examples for comparison:

K4388 Xultun region

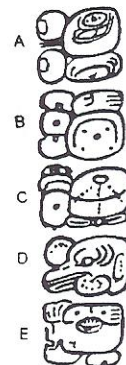
K5646 Bowl with Hizwitz toponym, probably from Zapote Bobal – El Pajaral area

K8728 Xultun region

In some cases, as we have seen, *tzih* is a modifier for *kakaw*, as in:

K8402 Early Classic lidded tripod, probably from Naranjo region

In texts from Chochola ceramics, near the Puuc region of Yucatan and Campeche, we find the *–il* ending routinely added to *tzih*, derictly before *kakaw*

u jaay y-uk'ib' ta tzihil kakaw

One interpretation of *tzih* sees it as a simple adjective meaning "raw," "fresh" or "pure"" (proto-Ch'olan **tzih*, "raw") as first suggested by Barbara Macleod, who noticed that in colonial Tzotzil the especially suggestive term *tzeel kokov*, "pure chocolate" (> *tze*, "green, raw, unripe"). This may well be parallel to a similar hieroglyphic phrase found by Marc Zender on a vessel (K8713), read *ti ach' kakaw*, "for new cacao":

What remains unexplained, however, is why *tzih* often appears on vessels as a stand-alone term, without any noun to modify.

Alternatively, it is perhaps significant that in K'iche' *tzi* is the word for soaked corn kernels (nixtamal) sometimes mixed with chocolate drinks.

14. Where's the pulque?

Pulque, the fermented juice of the agave plant, is a major ritual drink in Mesoamerica, but its use among the ancient Maya is poorly understood.

The Classic word for pulque was *chih,* attested in a handful of spellings as **chi-hi**. This appears as a simple glyph on jugs represented in narrative scenes on pottery. Probably the best examples are on two altars at Copan, in both cases following verbal constructions based on *uk'*, "to drink."

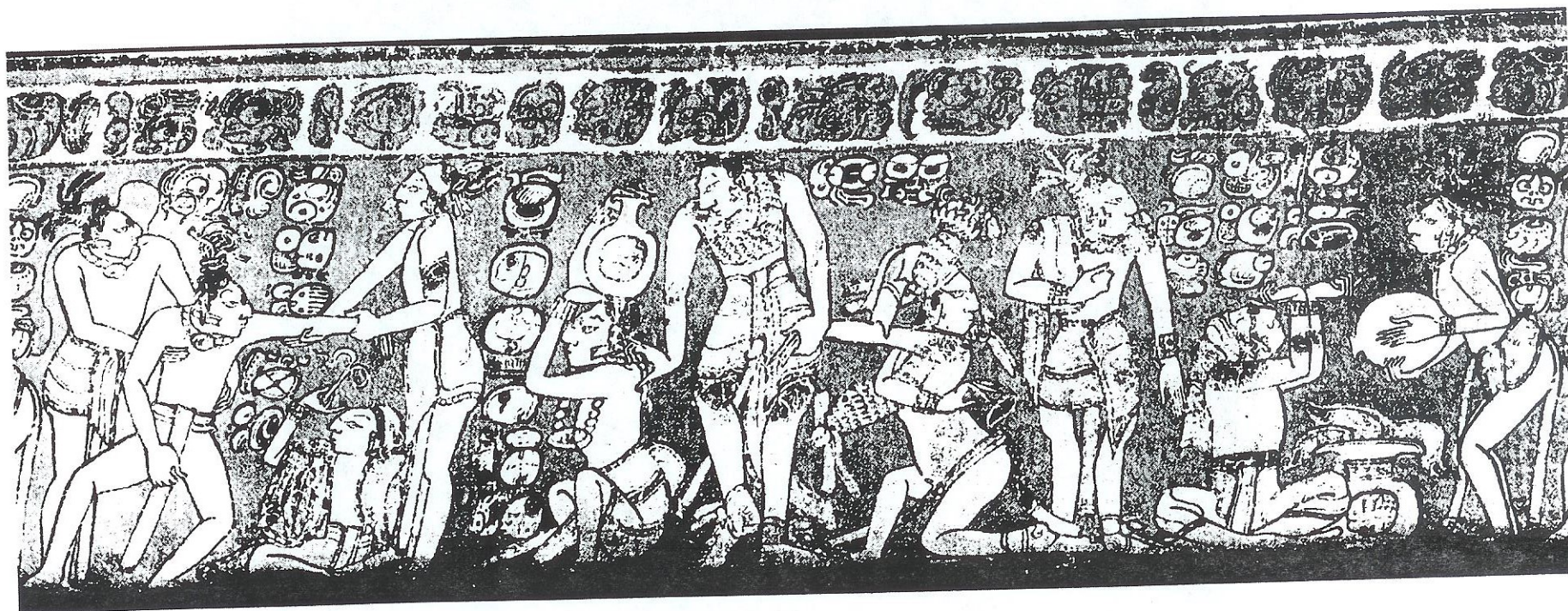
In the second of these examples, the name of the Copan ruler Yax Pahsaj Chan Yopaat follows "he drinks the *chih,*" giving us a clear indication that Maya rulers partook of pulque at least from time to time. The important question to consider, though, is why do we not find *chih* ever specified as the contents for drinking vessels?

We do, at least once…

Tikal, MT 219 (lid of vessel with stucco covering)

yu-k'i-b'i TA CHIH

Tikal Burial 195 MT 219

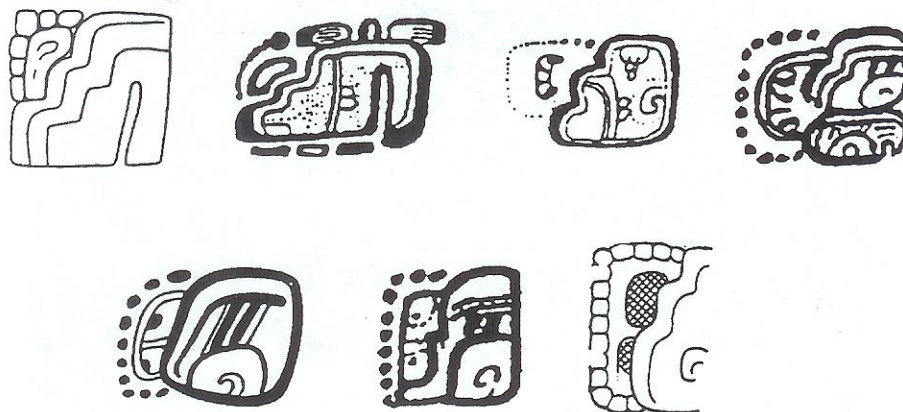
Not in short version

Not in short version

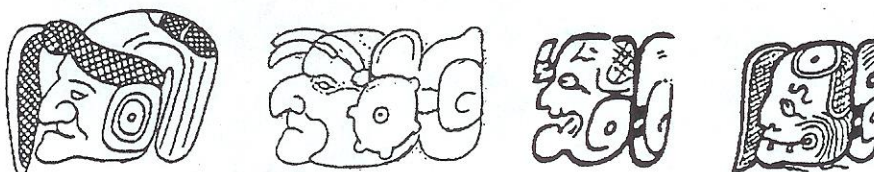
Not in short version

Not in short version

Not in short version

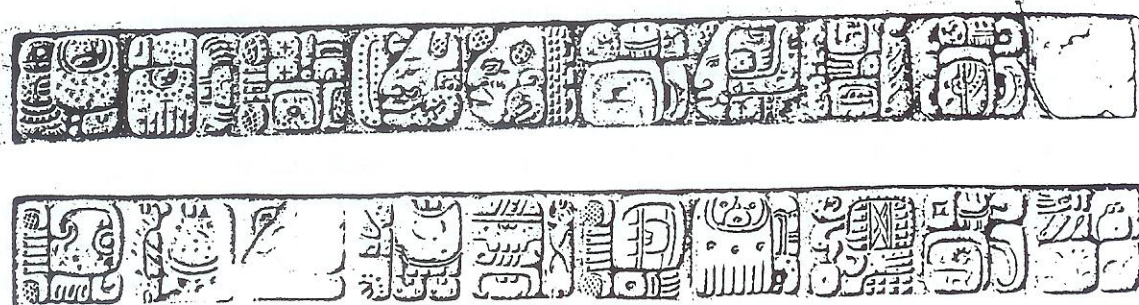
15. Dedicatory Verbs

The vast majority of Dedicatory Formulae employ as its principal verb a variant of the so-called Step glyph, or else its old God N head variant. Both long known to be sign variants for a single intransitive verb root. The suffix on both forms is **–yi**, which spells a possible medio-passive marker –V*y*. These are common intransitive verbs that describe motion or changes of state.

A meaning like "go up, ascend" is certainly suggested by the visual origin of the glyph, showing a footprint ascending two or three steps of a platform. Notice how in late examples, as the form of the sign became increasingly abstracted, some ancient scribes were unaware of graphic origin.

the God N is a clear head variant form, known also from many early examples.

A third form of the same verb seems to show a death's head with its *ik'* "breath, spirit" ascending skyward.

Again, something like "go up" is suggested by the presentation of the sign, but is gives us nothing about the verb's phonetic reading.

However, an important clue comes from at least two examples of the Dedicatory Formulae in inscriptions from Yucatan. where the verb spelled phonetically **?-b'a-yi,**

presumably for C*ab'-ay*. On Lintel 1 from Ikil. we see this in the second glyph, after the initial sign. The dedicated object is a *wayb'il* shrine for a female ancestor.

Ikil, Lintels 1 and 2 (drawings by G. Stuart)

In my view *t'ab'-ay*, "to go up," seems the best possible reading, although it is far from solid.

Several other verbs can appear in the same opening portion of the Dedicatory formula. One important one, little studied, is the "*haab'* hand," sometimes with the number four prefixed. The head looks to be a portrait of Itzamnaaj (the one holding the sign?).

16. The Nagging *-ich*

We have already seen in many examples that the spellings **yi-chi** or **ji-chi** is a common part of the introductory segment of the Dedicatory Formula, before the possessed noun. A fairly typical example of this pattern is:

a-ALAY-ya tz'i-b'i na-ja ji-chi yu-k'i-b'i-la

a-ALAY-ya T'AB'?-yi yi-chi yu-k'u-b'i

The **ji-chi** and **yi-chi** are closely tied to the introducing verb, wither it be a dedicatory verb or another based on *tz'ihb'-n-aj,* "is painted." In this example, the **yi-chi** precedes the *u-tz'ihb'-il* before the noun:

a-ALAY T'AB'?-yi yi-chi U tz'i ...
K3055

The variation between **ji-chi** or **yi-chi** seems to be conditioned by the last consonant on the verb suffix in the preceding block, as noted by John Justeson and Terry Kaufman (personal communication). Where we find a verb ending in *–aj*, the next glyph tens to be **ji-chi;** where the verb ending is –V*y*, the following glyph tends to be **yi-chi**. The pattern holds remarkably well, despite some exceptions. There is good reason to believe that both the spellings are cueing a suffix **-ich* on these verbs. Terry Kaufman suggested in 2002 that the pattern points to the likelihood that *–ich* is a reflex of the proto-Mayan enclitic **-ik*, meaning "already."

There are, though, some odd appearances of *ich* that do not fit any such pattern. A bowl now in the Museum of Fine Arts in Boston is said to be the *y-ichil jay*, where *ich* looks to have an adjectival role. Given the different setting, this could well be another word, however.

17. Carved or Painted?

The initial section of the Dedicatory Formula routinely includes an indication of the vessel's mode of decoration. There are two terms to know, one based on the verb *tz'ihb'*, "to paint, write," and the other based on a still undeciphered verb known as "*lu*-bat" glyph. The *tz'ihb'* glyph occurs on painted vessels, but the *lu*-bat is found only on carved, incised or molded vessels. Presumably it must mean something like "to carve," but the root (*ul*? or *u*CV*l*?) remains unspecified. These two words are in direct contrast to one another, and occupy exactly the same structural niche within Dedicatory Formula on vessels and monuments.

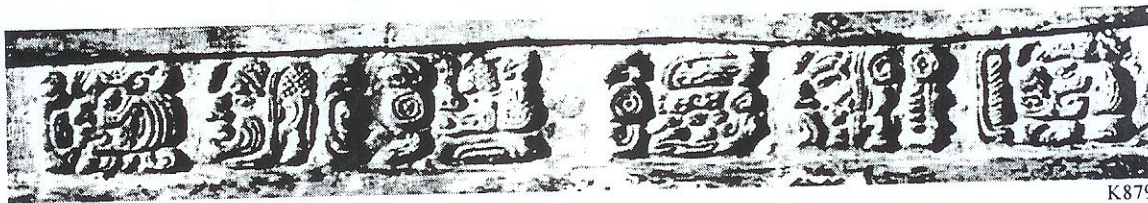
Notice how in the following comparisons the term *u-tz'ihb'* alternates directly with the lu-bat, after the God N dedicatory verb and before *y-uk'ib'*

yu-?-lu-li

K4340, an incised vessel

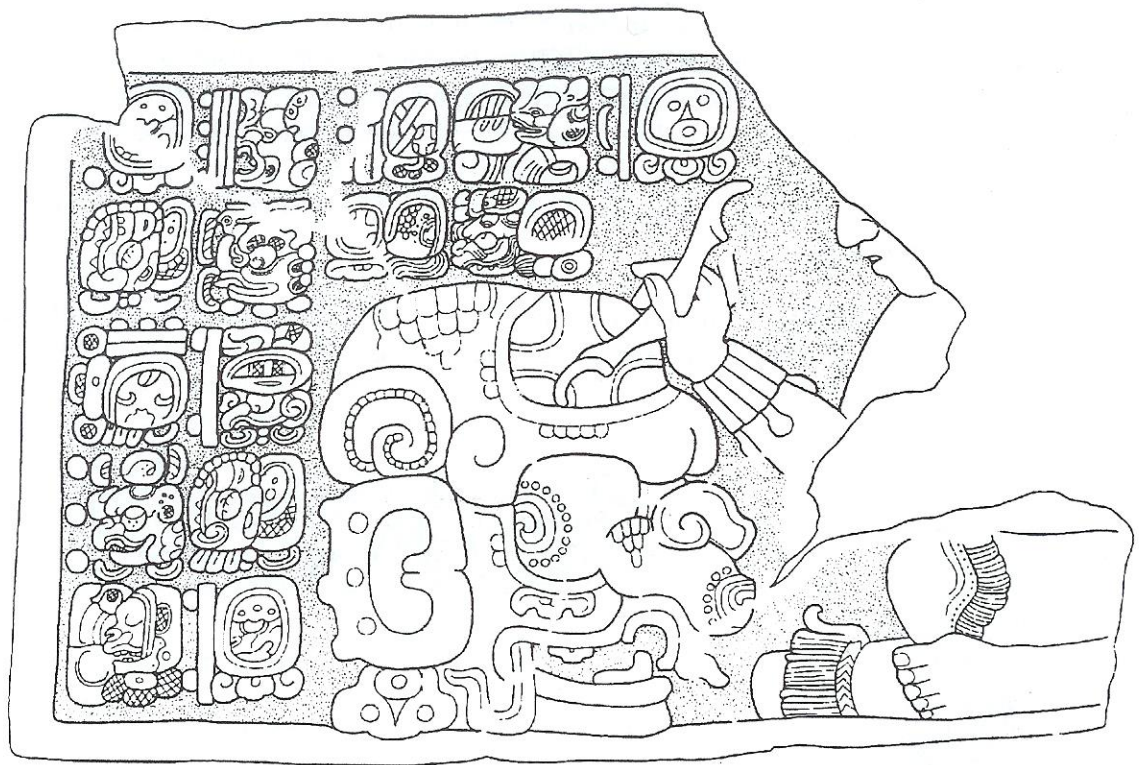
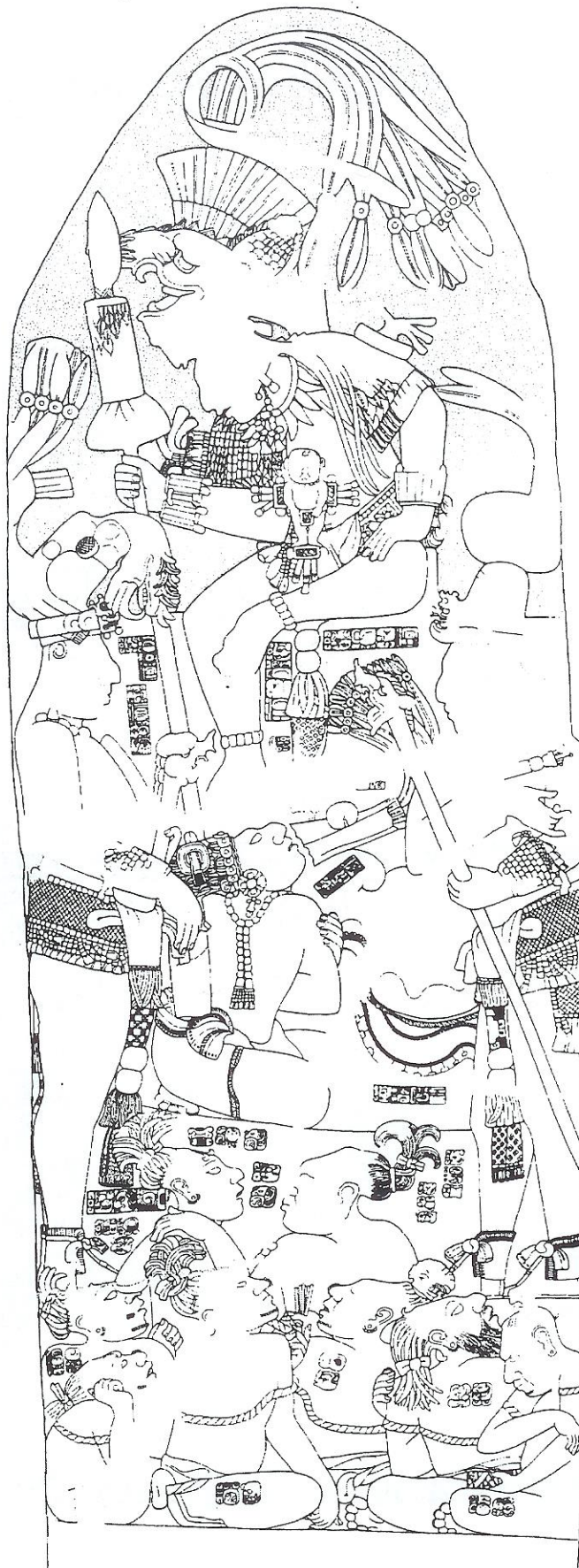
U-tz'i

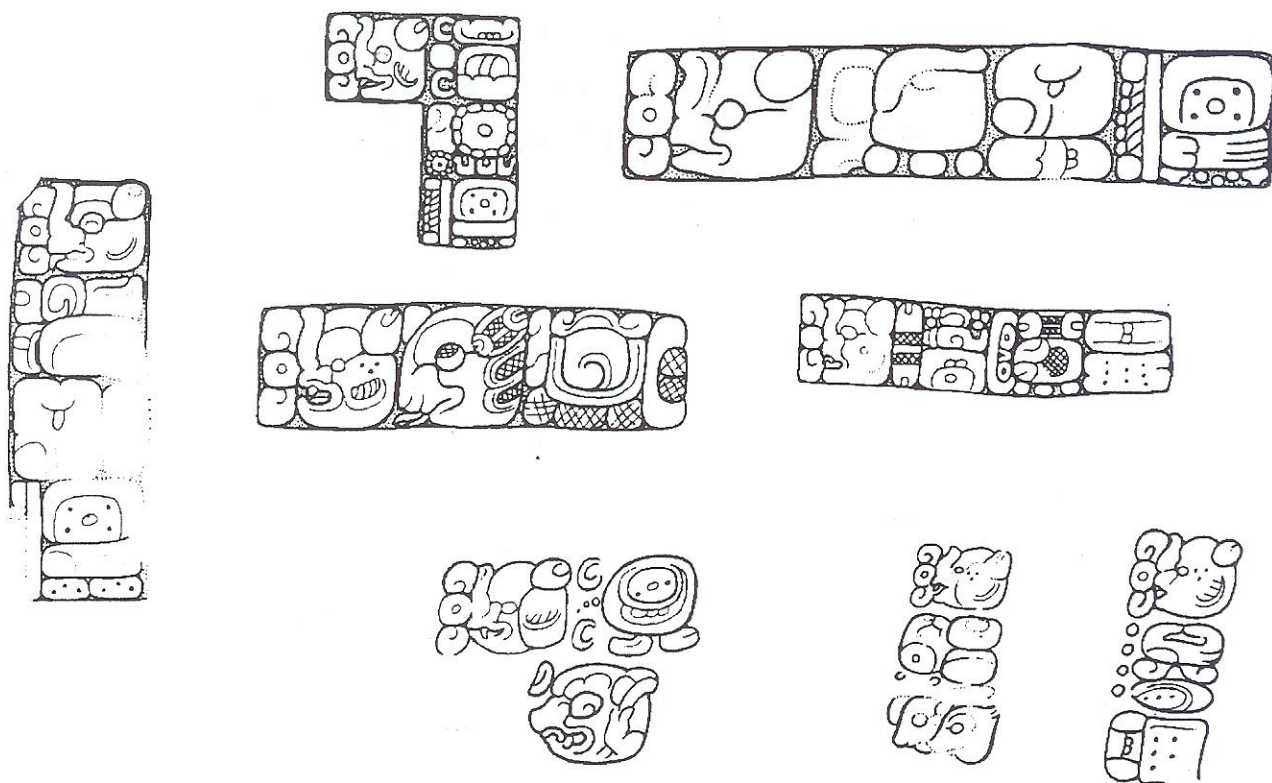
b'a-li

Similarly this molded vessel takes the *lu*-bat glyph.

K8799

The Emiliano Zapata Panel (drawing by D. Stuart)

Not in short version

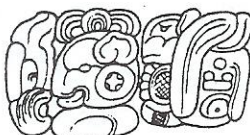
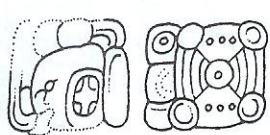
A₁

Not in short version

The Sculptor Signatures of Piedras Negras, Stela 12

Drawings by D. Stuart

18. Vessel Owners as Deified Impersonators

The royal owners of particular vessels were sometimes named as "impersonators" of certain deities, such as the sun god K'inich Ajaw. These pots were presumably intended for drinking in rituals that involved ceremonial role-playing.

deity name

Two impersonation phrases:

u-baah ahn ... DEITY NAME - RULER NAME

(see Houston and Stuart 1996)

K791

On this well-known "Holmul Dancer" vessel from the Naranjo region, the owner is described as an impersonator of the Sun God, with his full name Wuk Chapaht Tzikin (?)K'inich Ajajw, "Seven Centipede Bird, the Sun Lord"

K633

Pages 75 - 105 not in short version

19. The Way Beings

In 1989 Stephen Houston, me, and (working independently) Nikolai Grube, deciphered the glyph read *way* (at left). This is a common the short captions that accompany images of fantastic animal-like creatures and beings on numerous Late Classic vessels. In the initial study of the *way* glyph, we drew a connection to the widespread meaning of "animal companion," an aspect of the human soul.

Because the classic ceramics consistently mention the animal-like beings as the way of Maya nobles (i.e., the Seibal Lord), we originally proposed that the *way* beings on pottery were representations of the animal souls or "co-eesences" of Maya rulers. But the true nature of the *way* beings has been far from openly discussed in the literature. The panoply of skeletons, bats, snakes and jaguars and all sorts on unnatural animals, reveal that something far more dark and sinister underlies the meaning of these creatures.

We have long been aware of the connection between the way concept and the wider significance of nagualism in Mesoamerica, but the interpretations of *way* have not gone far enough to include the more sinister ideas of witchcraft and *brujería*, perhaps due to the long-standing debate about whether the very presence of such ideas in Mesoamerican folktales and belief have a European origin, as some have argued.

My contention, based on specific evidence presented at the Forum, is that the *way* beings are representations of the animated dark forces wielded by Classic Maya sorcerers in their attempts to influence other people, and perhaps other rulers. One could think of them as spells, curses, or other sorts of enchantments wielded by *brujos*. These could be manifested as diseases and afflictions of the body, or perhaps as some other misfortune, but the point always seems to be their harmful affects on others. Mesoamerican folktales are replete with such beings, and many are described in published ethnographies and other sources.

The captions linking specific *way* beings to "lords" of named kingdoms reveal that witchcraft – and not so much shamanism in its more general and vaguely defined sense -- was an important component of Classic Maya rulership and its overarching ideology.

In present-day Itzaj Maya, *waay* is specifically the word for "witchcraft, sorcery;" there is no mention of animal companions or the like. In his monumental dictionary of modern Itzaj, Hofling (1997) gives the following example:

> *u-waay(-il) a' winik-ej*, "the sorcery of the man"

At present I prefer to translate *way* on Classic ceramics in a similar way, perhaps in the sense that the way beings are the demonic manifestation of sorcery – the spells and enchantments themselves. That is, a typical caption might read "the 'Water Jaguar' (*Ha' Hix*) is the Demon of the Seibal Lord." The idea of "animal companion" is valid up to a point, but it does not go far enough to explain the underlying significance of such creatures and their powers in association with certain individuals. One widely known word in Tzotzil for "animal co-essence" is *vayihel*, which in the neighboring Tojolab'al language can have a much more sinister meaning:

> *wayjel* – nagual, animal compañero. Se dice que el *swayjel* es mandado por el brujo para enfermar a la gente.

Alfonso Villa Rojas also described a relevant set of beliefs among the Tzeltal of Oxchuc:

> "The system [of magical beliefs based on the concept of the nagual] finds its justification in its efficiency as a method of social control; it makes possible the continued attachment to traditional custom, and sanctions the moral code of the group. ...There is a widely held Tzeltal belief that all chiefs and elders receive the supernatural help of a nagual. In the daytime the nagual remains "in the heart" of his master, but at night he can move about alone, quite independently of the owner's body. Through the intermediation of these supernatural beings, the elders and chiefs are able to know the thoughts and actions of their subordinates and thus mete out punishment in the shape of illness or other misfortune. To cause illness, all the witch has to do is allow his nagual to enter the victims body and eat his soul."

William Holland (1961) working in a nearby area, was even more explicit:

> "In Larraínzar, as in Oxchuc, it is commonly suspected that most curers and *principales* are able to turn themselves into malevolent animals and other natural phenomenon in order to hard their enemies and send them disease."

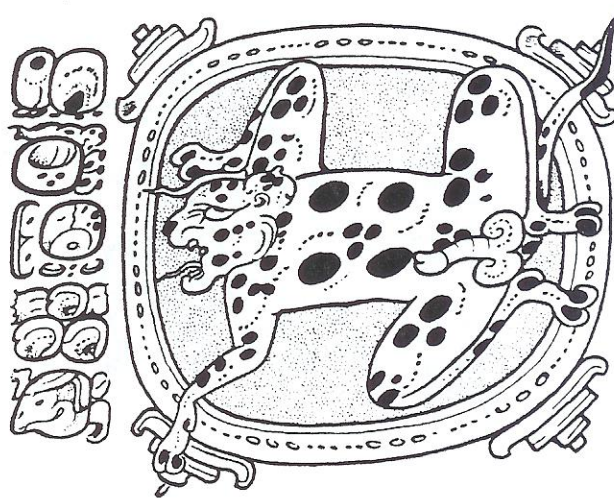
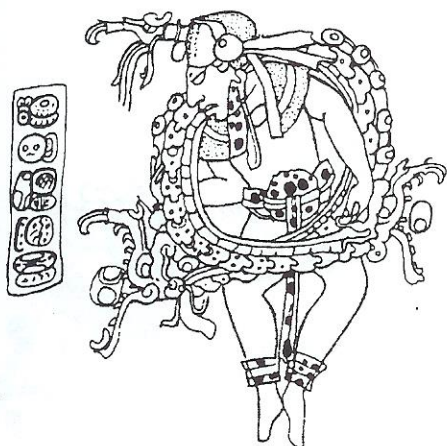
Villa Rojas, Alfonso
1947 Kinship and Nagualism in a Tzeltal Community, Southeastern Mexico. *American Anthropologist* 49:578-587.

Holland, William
1961 *Highland Maya Folk Medicine: A Study in Culture Change*. Ph.D. dissertation, University of Arizona.

See: Kerr Vase Books: Maya Vase V4-2004 (1994), pp 688 - 723
Maya Iconog: Census of Xibalba, pp 1 - 30
Papers Classic: 2005 XXIX Pot Glyphs (Long), pp 77 - 80

A Selection of *Way* Demons

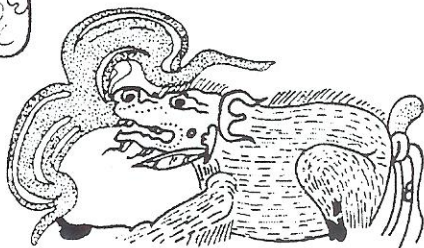
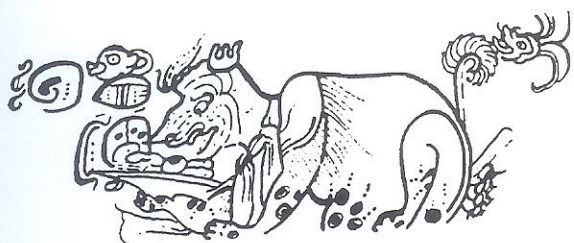
Here is a selected list of the more prominent and interesting *way*, some with a particularly demonic or macabre character. Some years ago Werner Nahm and Nikolai Grube (1992) published a fairly comprehensive and useful list of *way* beings, and only a few more have appeared since that time.

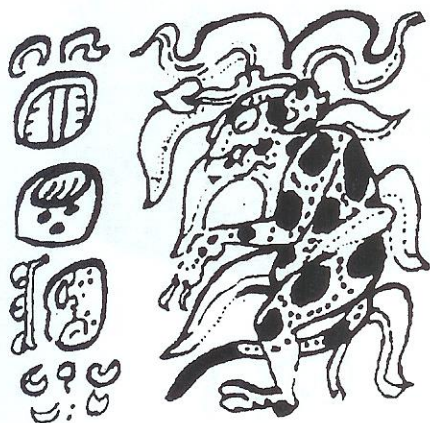
Ha' Hix, "Water jaguar," (associated with "the Seibal Lord(s)")

K'ahk' Uti' Sutz', "Fire is the bat's mouth" or "Fire is the bat's speech"

Sak B'aak Nah Chapaht, "White Bone House Centipede"

Sitz' Chamiiy
"Glutton Death"

? Hix

"? Jaguar"

? Wut Chij, "? Eye Deer"

K'ahk' We' Chitam,
"Fire-Eating Peccary"

K'ahk' Neh Tz'utz', "Fire Tailed Coati(??)"

K'ahk' Ohl May Chamiy
"Fiery Heart ? Death"

K'ahk' Hix

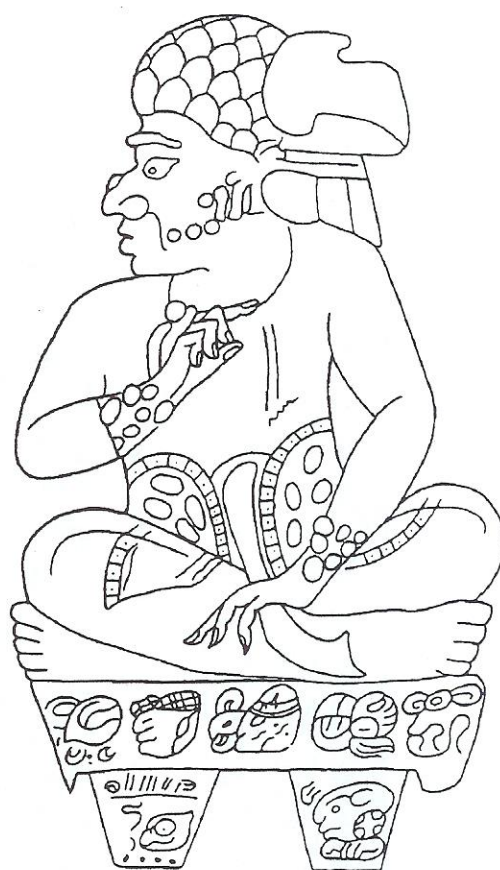
"Fire Jaguar"

K'ahk', "fire"

Lab'te' Hix
"Evil Stick Jaguar"?

Part III.

Deciphering the Initial Sign

Barbara Macleod
Yuriy Polyukhovich

Dumbarton Oaks figured shell plaque
Drawing by Yuriy Polyukhovych, 2004

AA Dumbarton Shell Plaques

a - LAY-ya -yi yu-k'i-bi ta-yu-ta Ka-wa

Spellings of the month Mak ⇒

PN 25

Pusilhá D

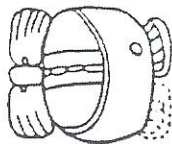
K927

a-[la] LAY-ya T'AB-[yi] u-tz'i-bi na-ja yu-k'i-bi ↓ TE' e-le Ka-wa

K3744

a-LAY-ya u-tz'i-bi na-ja yu-k'i-bi ta-yu-ta-la ka-ka-wa

K4388

a-LAY-ya T'AB-yi yu-k'i-bi ta yu-ta 'IXIM TE'-le Ka-wa CHAK ch'o-ko

Vase of the Seven Gods Coe, 1973 #49

THE "INITIAL SIGN"

a-La-LAY-ya 'UHT(-i)

MS 0040 PMU 3.10 (B. MacLeod)

Painting Maya Universe - Reents 1994, page 82 (100)

a-LAY-ya yi-chi u- tz'i- ba- li yu-k'i-bi

a-LAY-ya? yi-chi u- tz'i- ba li yu-k'i-bi

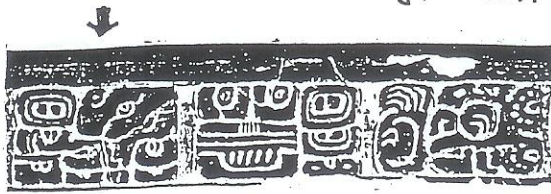
THE "INITIAL SIGN"

(nominal phrases)

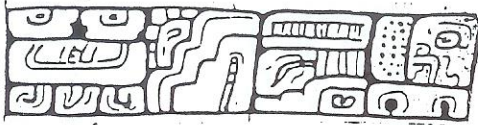
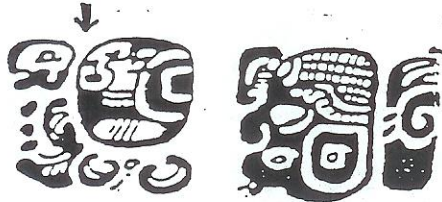
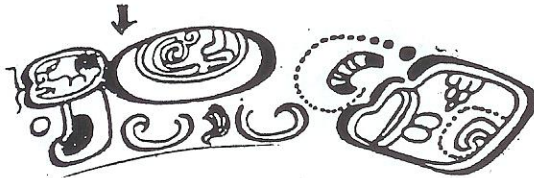
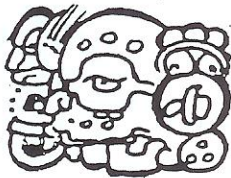
MS 0077 PMU 4.28 (B. MacLeod)

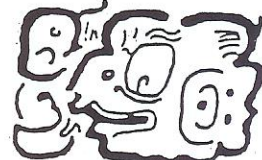
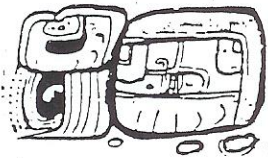
Painting Maya Universe - Reents 1994, page 137 (153)

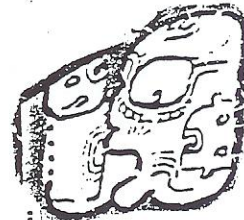
ji - chi

a

a ya K2774

TAB-[yi]
yo-OTOT K'U-NAAH

La
LAY
ya

b Tikal MT 140D

c Von Winning #6308 (N. Grube)

d K3070 (B. van Heusen)

e K4357

f K4388

g Coe, 1975 #14

h K1183

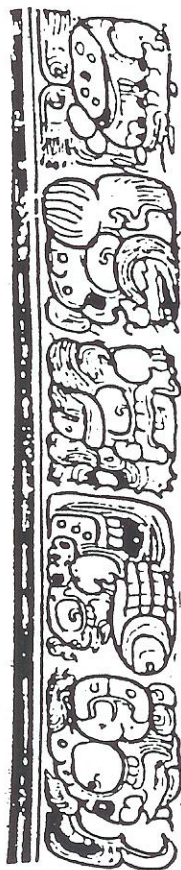
i Hellmuth 1978 #195

j K2323

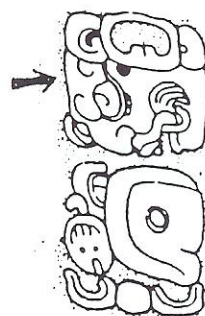
THE "INITIAL SIGN"

a - LAY K'AL - ja yi - chi ...

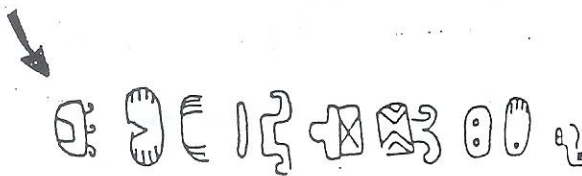
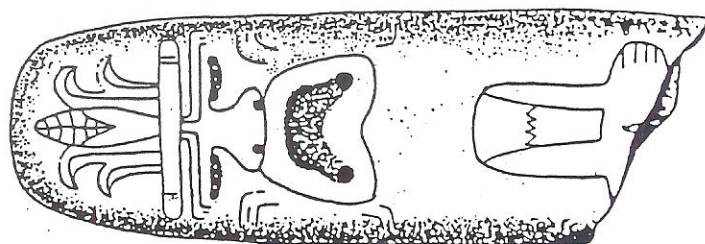
"Ear Pendant" variant

K4357

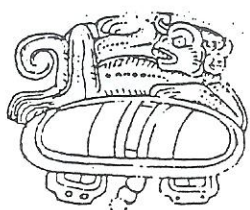
a - LAY K'AL - ja yi - chi u- K'i - bi ...

"G1" Variant

K1183

Name of G1 Palenque Cross

"Ajaw": Uxmal Eremito Column Altar

El Sitio Celt (Justeson)

THE "INITIAL SIGN"

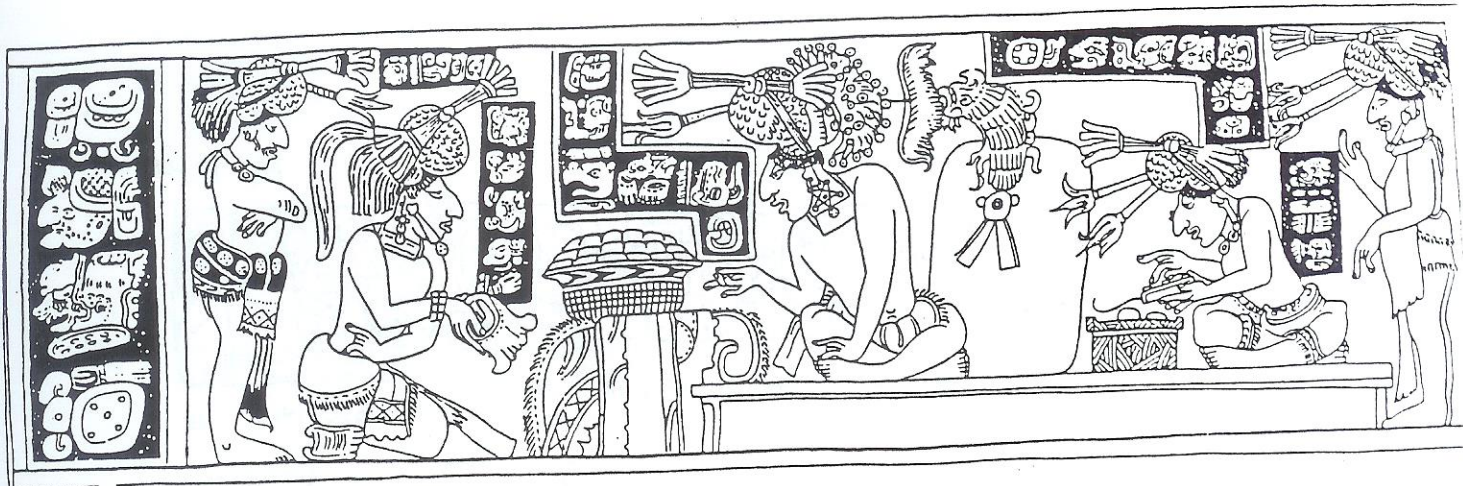
Robicsek & Hales Fig 57 (N. Grube)

Chichén Itzá, 4 Lintels L1a, A1 (N. Grube)

Copan St. 63 (D. Stuart)

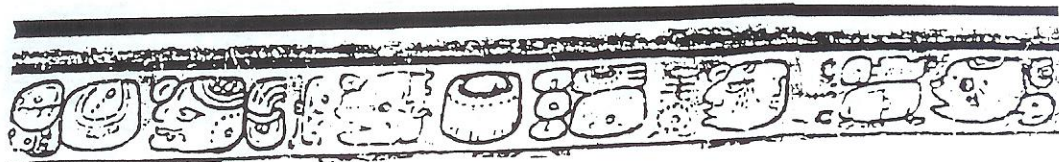
Chocholá Vessel in Berlin Museum fur Volkerkunde (N. Grube)

Copan Altar of Stela 13

Tortuguero 6 examples

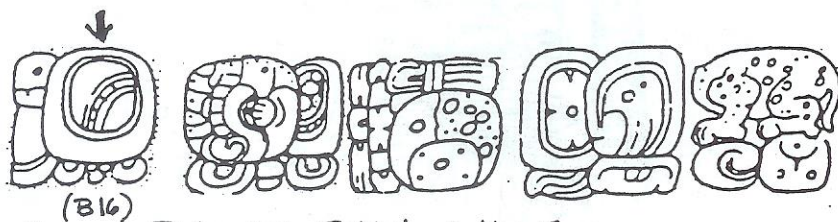
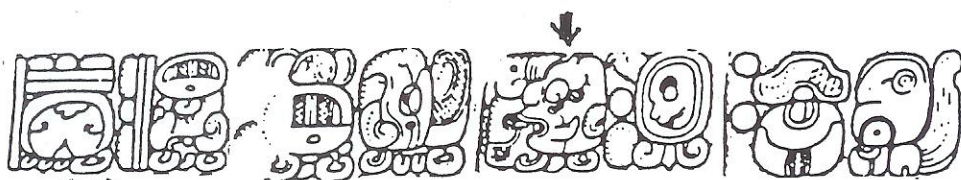
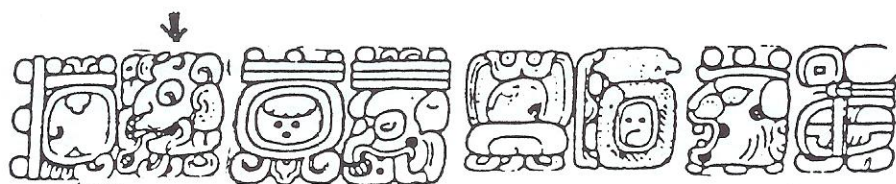
A13 B16 E11

THE "INITIAL SIGN"

The Nebaj Vase, Chixoy Valley, Guatemala (Morley, 1956, plate 93a)

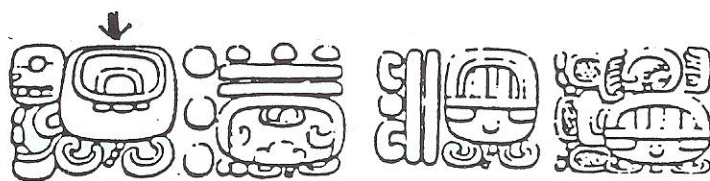
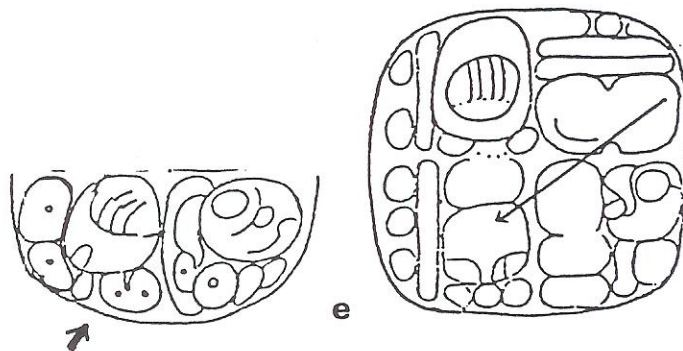
-yi u-tz'i-ba yu-k'i-bi ta IXIM·TE' ka-wa

K2352

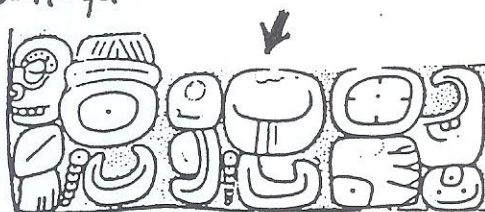
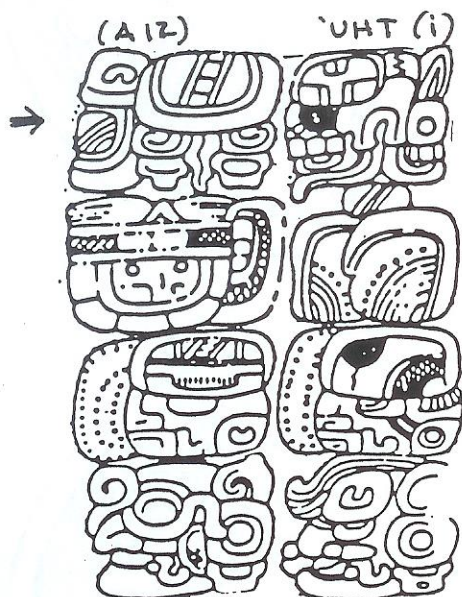
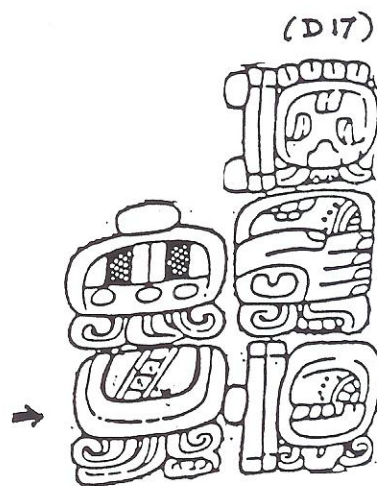
-yi u-tz'i-ba-li yu-k'i-bi ta IXIM-TE' ka-wa

K2206

THE "INITIAL SIGN"

a (B16) Palenque Tablet of the Sun

b (A4) Tortuguero 6

c (C2) Tortuguero 6

d (E1) Quiriguá J

e

Tortuguero 1

THE "INITIAL SIGN" monumental inscriptions

a Chichén Itzá Monjas L. 4

b

c

d

Examples from Tikal St. 31

the "INITIAL SIGN"
monumental inscriptions

See: Chocolate in Mesoamerica - McNeil 2006, Chapter 8, pp 167 - 196
Maya Iconog: Cacao Ch 8, pp 1 - 30
Papers Classic: 2005 XXIX Pot Glyphs (Long), pp 90 - 104

Part IV.

Metamorphosis in the Underworld: The Maize God and the Mythology of Cacao

Simon Martin

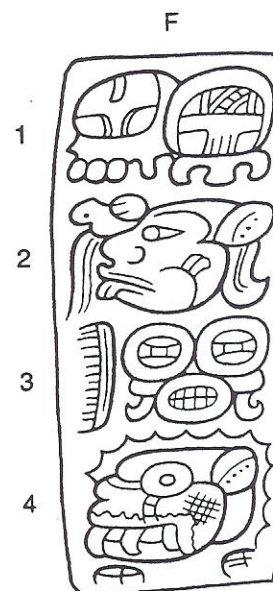
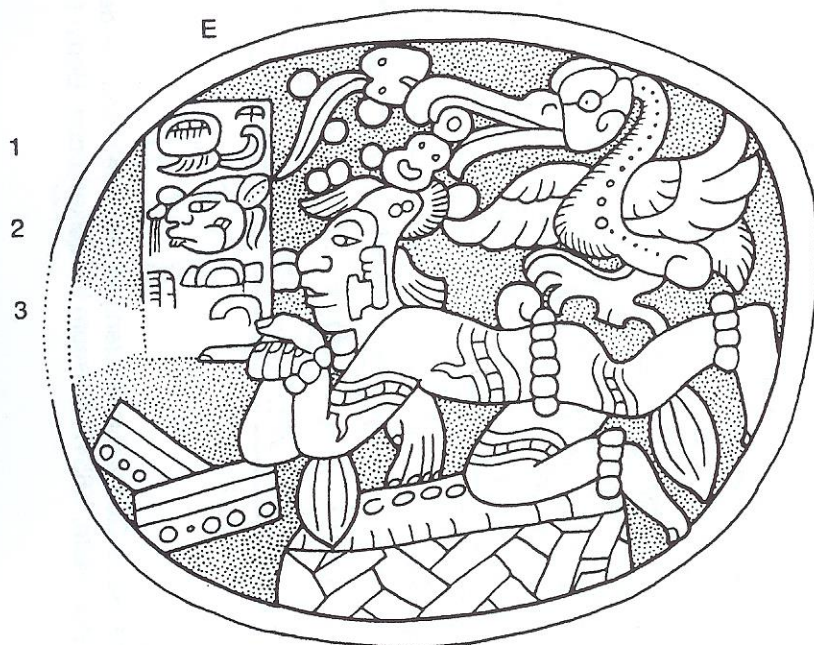
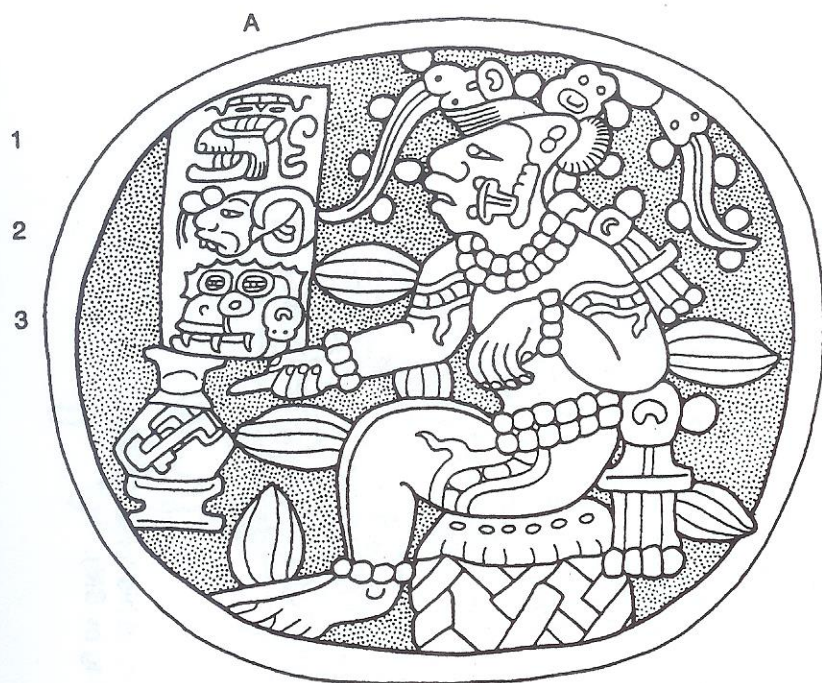



Figure 1a, b, c
An anthropomorphic cacao plant labeled in hieroglyphic captions the **IXIM-TE'** "Maize Tree". K4331, Dumbarton Oaks Research Library and Collection (drawing by Simon Martin [SM])

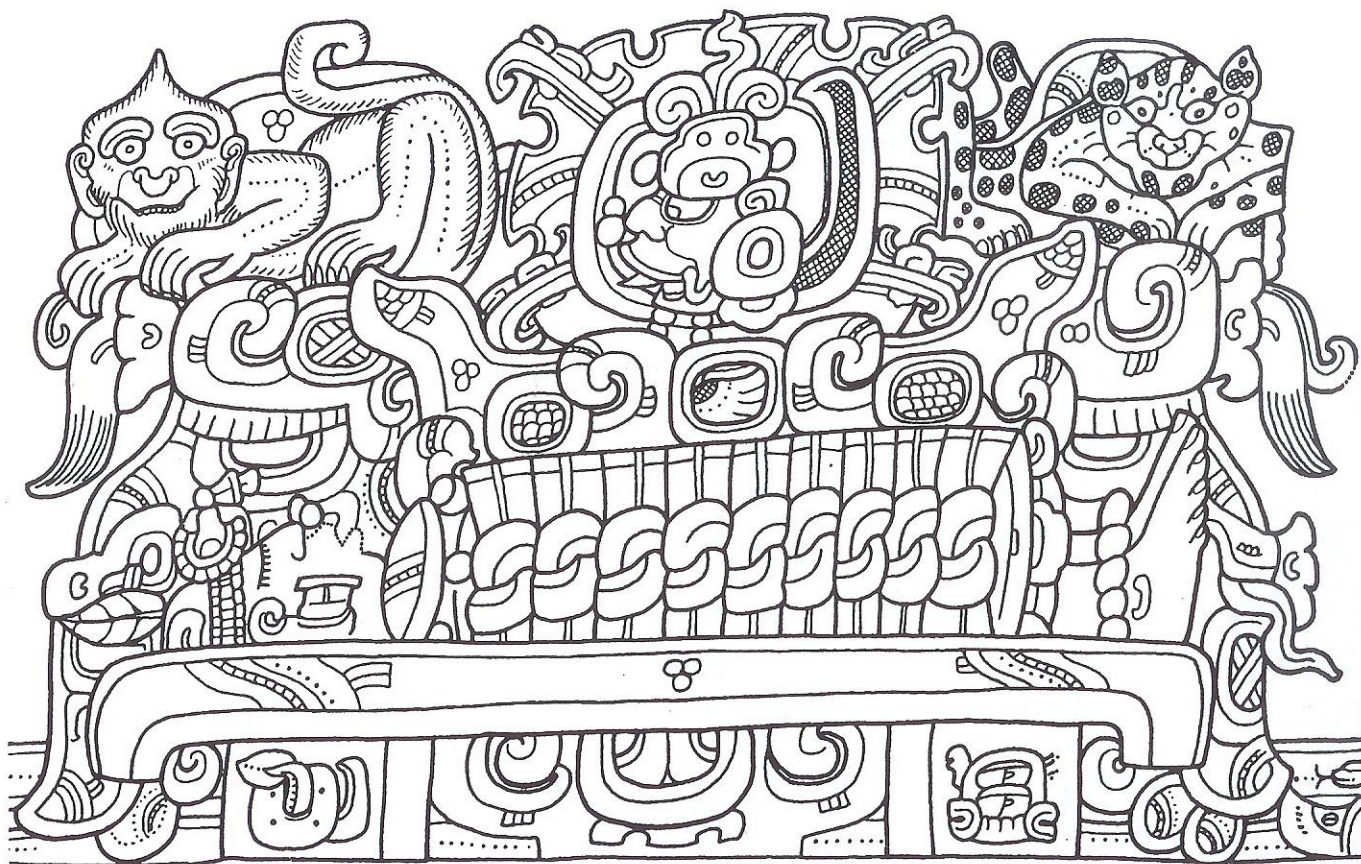



Figure 2a
The burial of the Maize God within Sustenance Mountain and the departure of his "breath-spirit" to join the celestial realm. K6547, Museum für Völkerkunde, Berlin (drawing by SM).

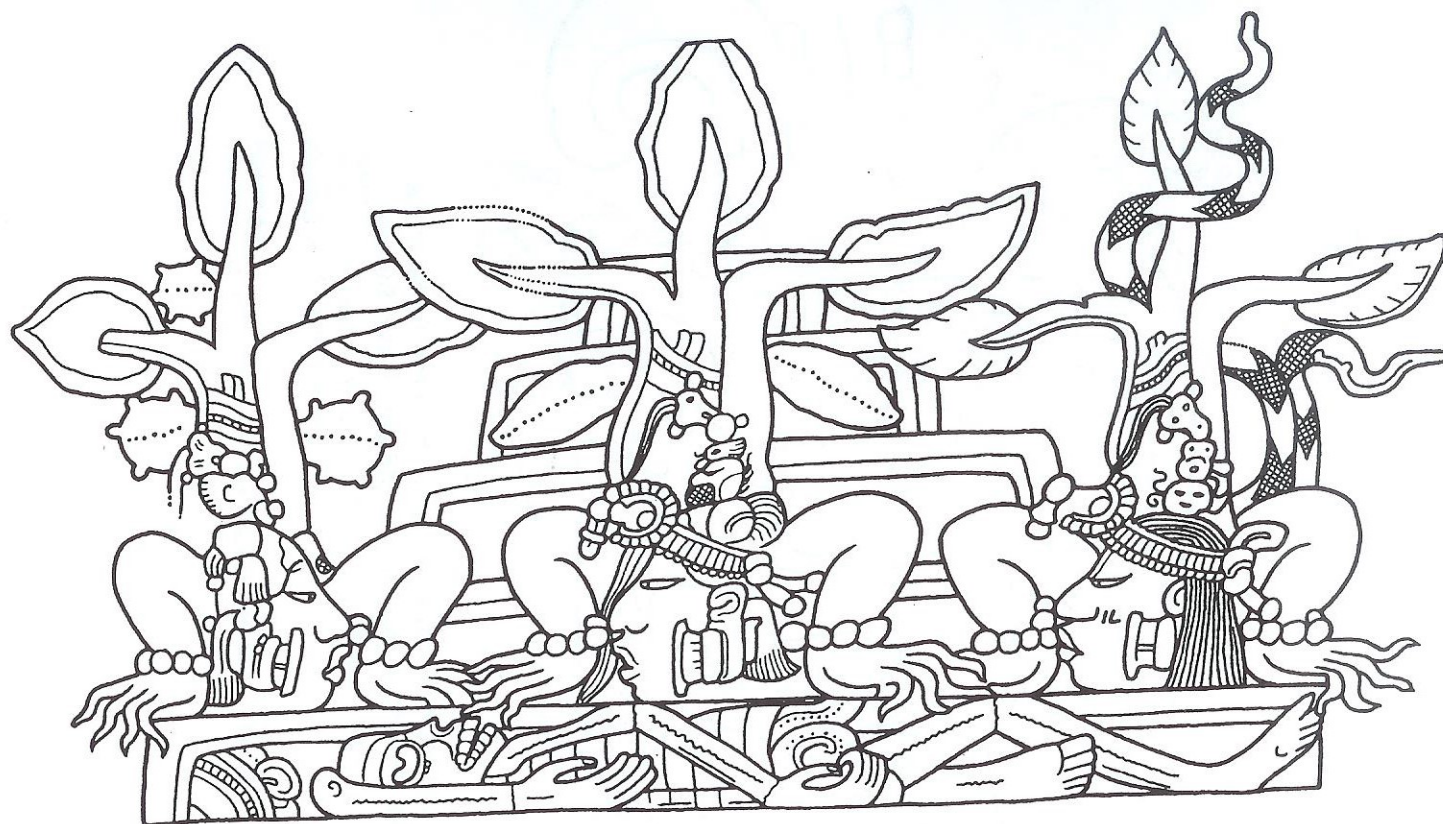



Figure 2b
The emergence of fruit trees from the Maize God's body. K6547, Museum für Völkerkunde, Berlin (drawing by SM).

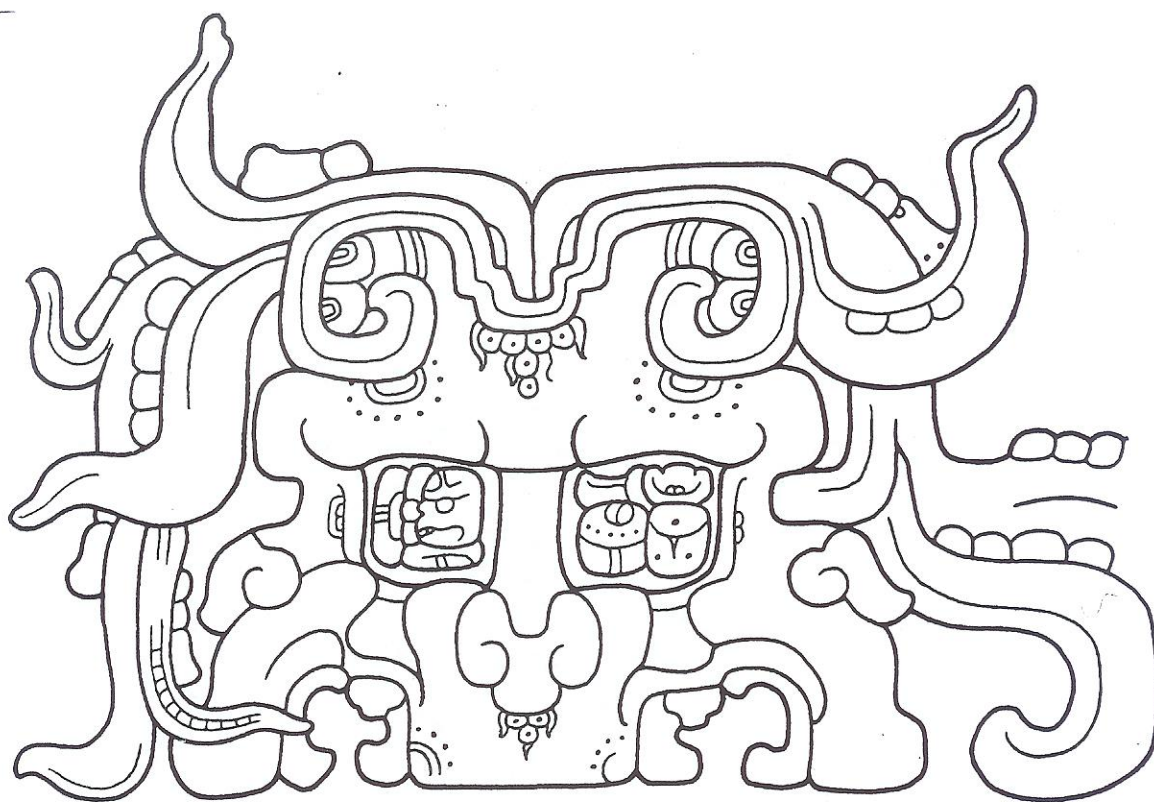



Figure 3
Sustenance Mountain in Maya art. Detail from the Tablet of the Foliated Cross, Palenque (drawing by SM after David Stuart).

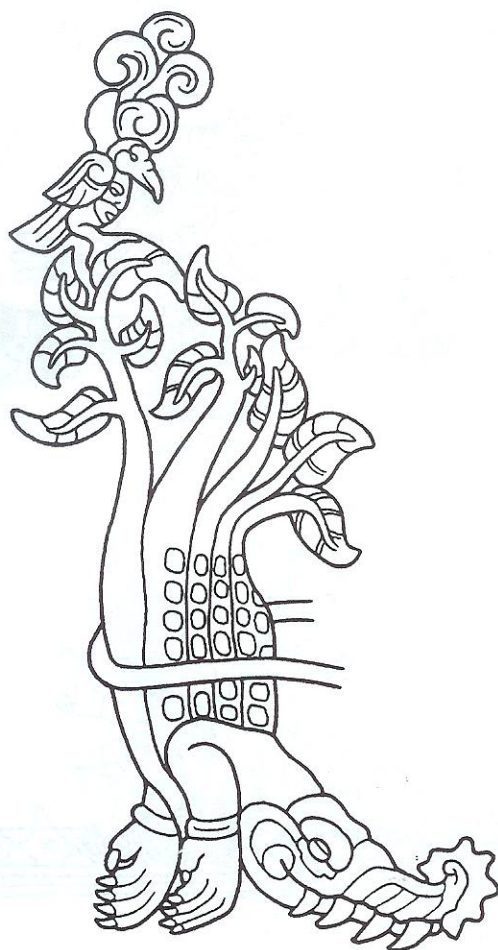



Figure 4a
The Maya Crocodilian World Tree. Detail from Stela 25, Izapa (drawing by SM after Ayax Moreno).

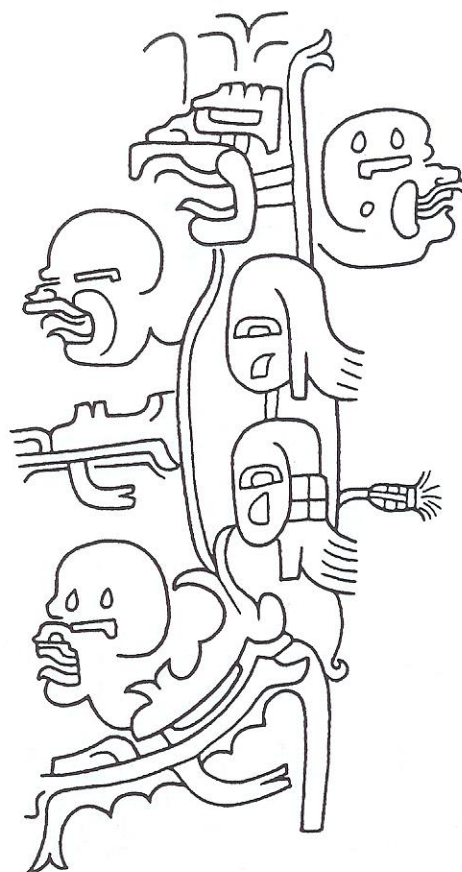



Figure 4b
The Olmec Crocodilian World Tree. Incised design on "The Young Lord" (drawing by SM).

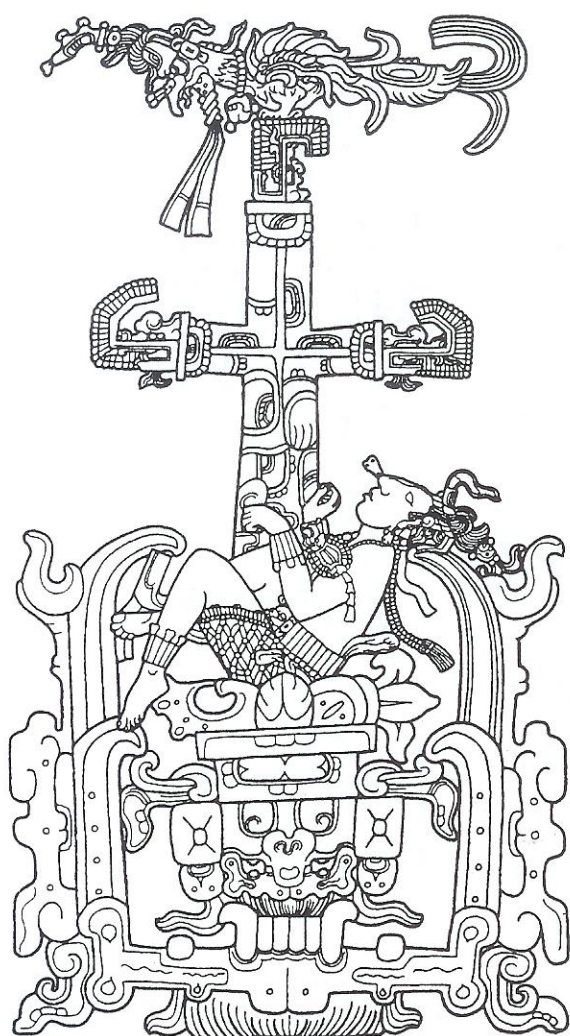



Figure 5a
Pakal of Palenque, in the guise of the Maize God, transforming into a World Tree. Detail from the lid of Pakal's Sarcophagus, Palenque (drawing by SM after a photograph by Merle Greene Robertson)

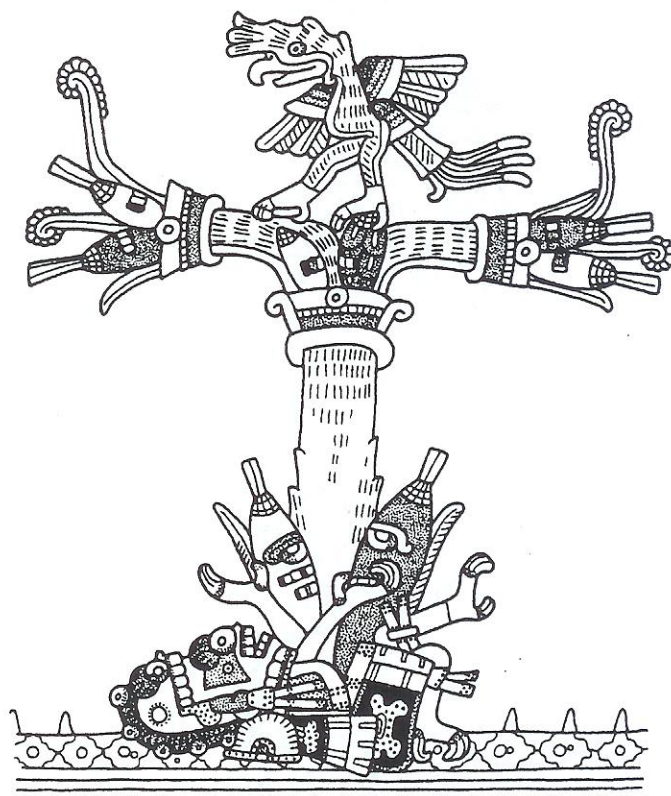



Figure 5b
The Mexican axis mundi or Central World Tree growing from a reclining Death Goddess. Detail from Codex Borgia, page 53 (drawing by SM).

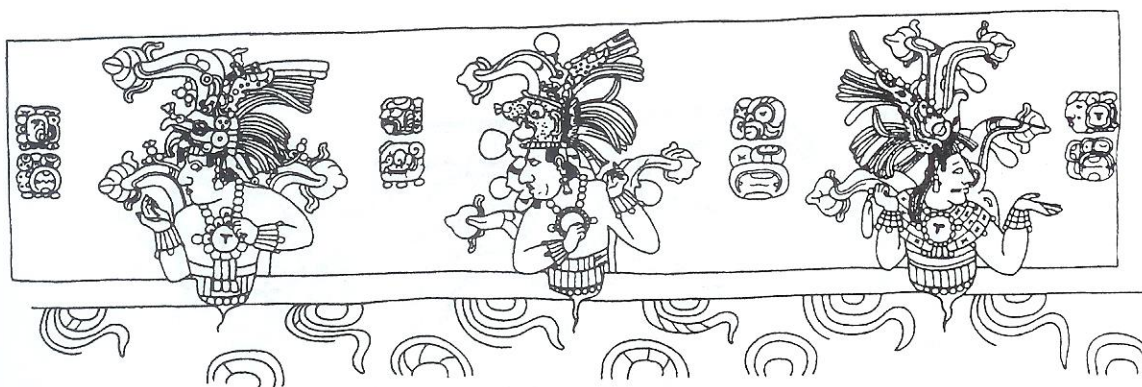



Figure 6a
Personified fruit trees representing ancestors rising on the sides of Pakal's sarcophagus. East side of the Sarcophagus, Temple of Inscriptions, Palenque (drawing by Tracy Wellman).

Figure 6b
Pakal's mother, Ix Sak K'uk', as a cacao tree. Detail from the north side of the Sarcophagus, Temple of Inscriptions, Palenque (drawing by SM).

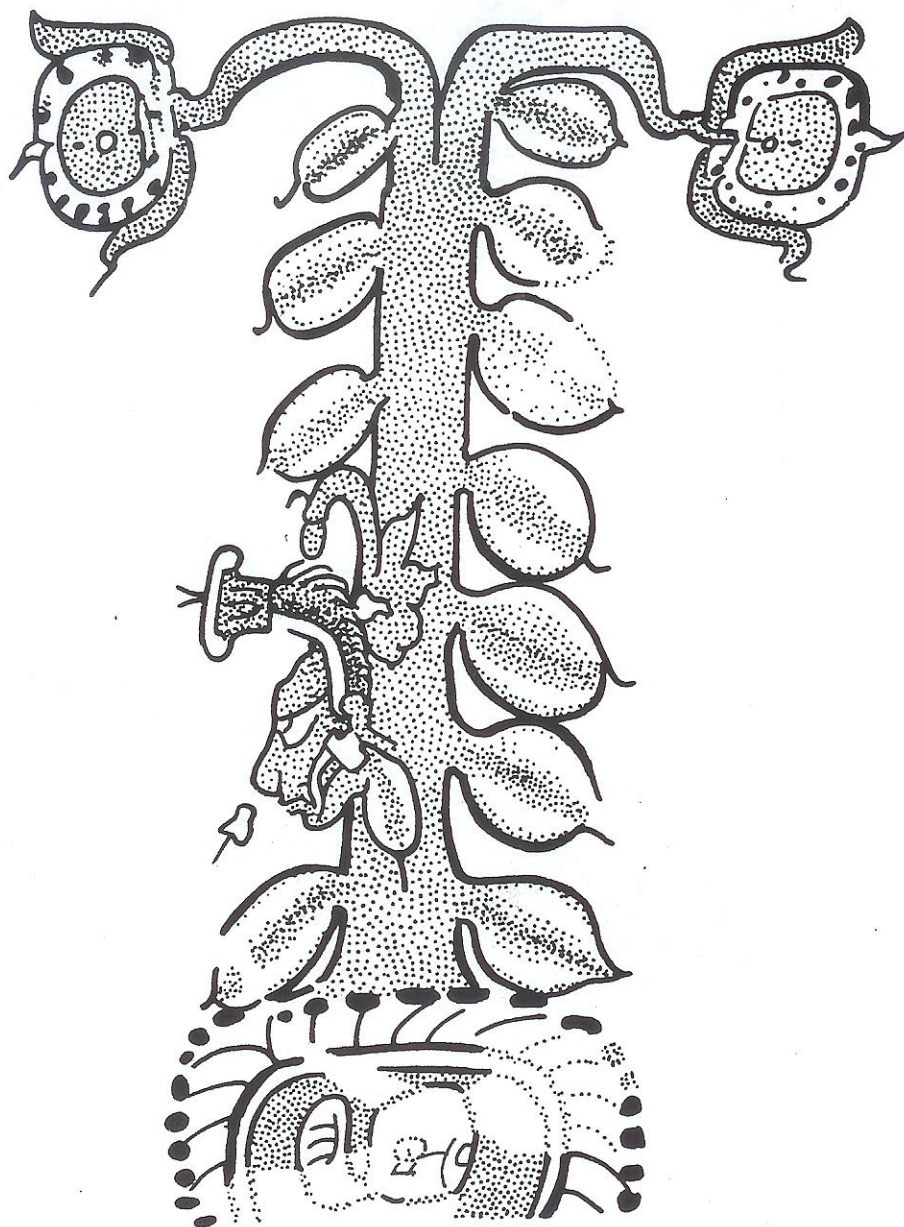



Figure 7
The Maize God's head as a cacao pod. K5615, Museo Popol Vuh, Guatemala City (drawing by SM).

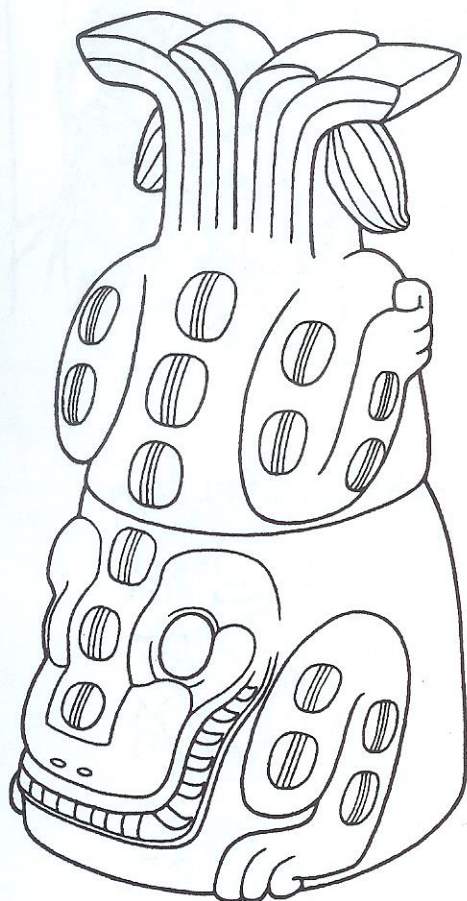



Figure 8a
A crocodilian cacao tree. Censer lid, Copan (reconstruction drawing by SM).

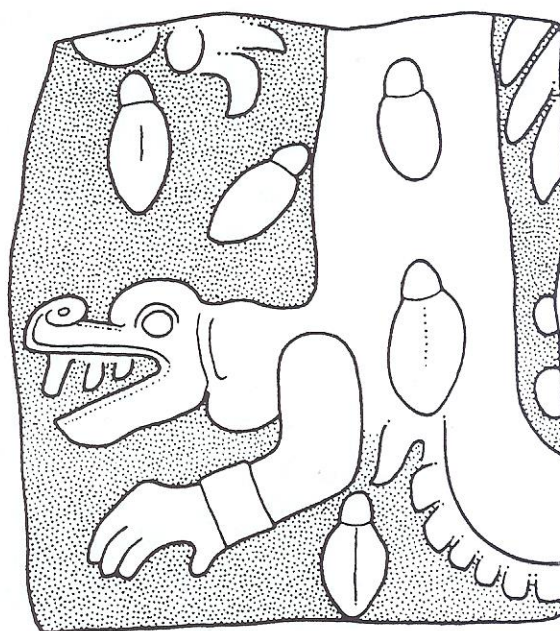



Figure 8b
Cacao-sprouting crocodilian World Tree. Carved fragment from the Osario temple, Chichen Itza (drawing by SM after a field sketch by the Proyecto Arqueológico Chichén Itzá, courtesy of Peter Schmidt).

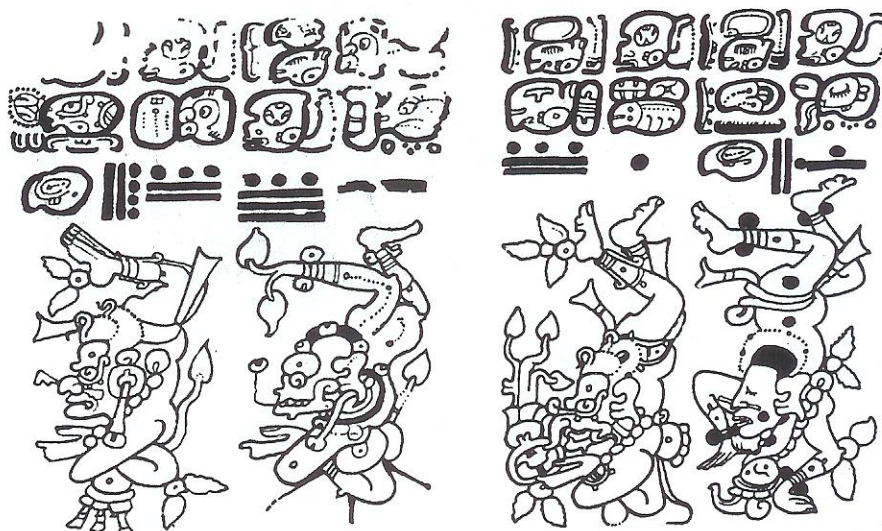
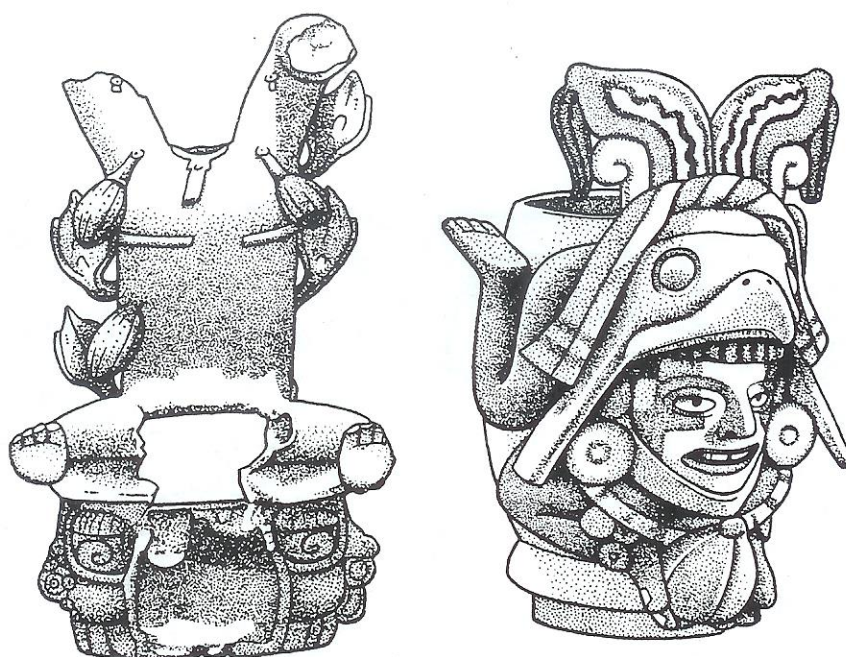



Figure 9a
The Maize God in the inverted tree posture with attached cacao pods. Censer lid, possibly from Río Bec, Campeche (drawing by SM after a photograph courtesy of Peter Schmidt).

Figure 9b
Maize God in a combined tree/flight posture. Postclassic Censer Pot (drawing by SM after a photograph by Justin Kerr).

Figure 10
Four inverted deities in combined tree/flight postures in a tree-planting augury. Dresden Codex, page 15 (drawing by SM).

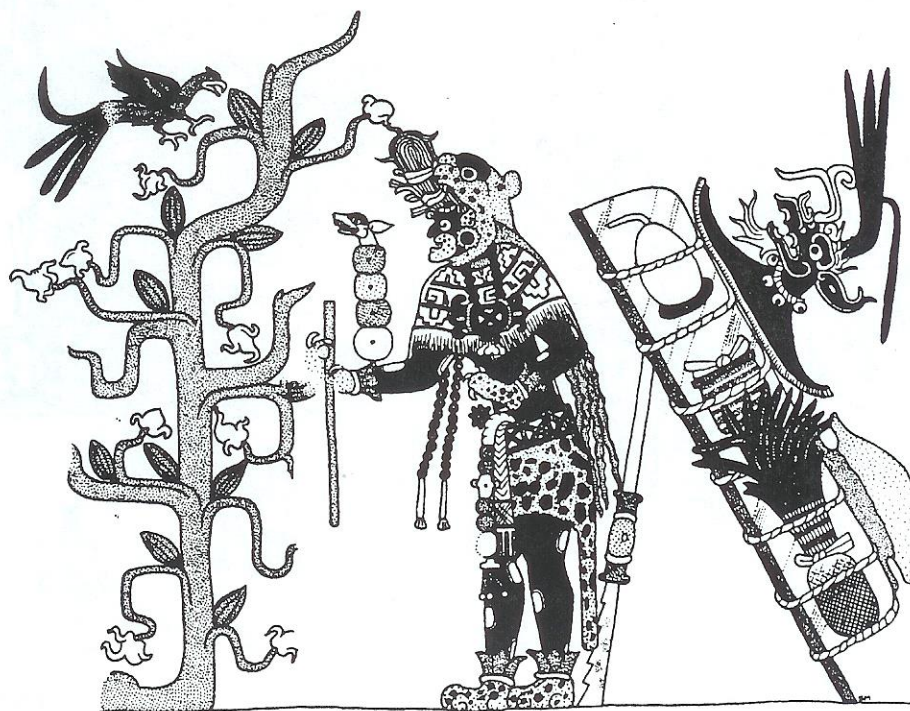
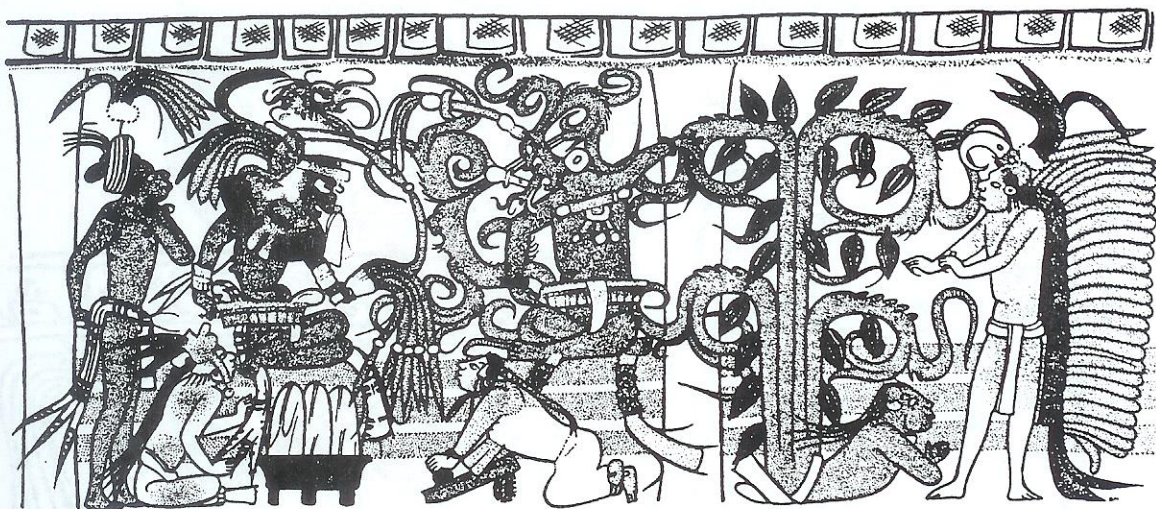



Figure 11
A palace scene in the Underworld, featuring God L, K'awiil, and the Maize Tree. K631 (drawing by SM after a roll-out photograph by Justin Kerr).

Figure 12
God L with merchant's pack and cacao tree. Detail from the murals of the Red temple, Cacaxtla, Tlaxcala (drawing by SM).

Figure 13a
K'awiil, the embodiment of lightning, carrying a bursting sack of cacao. Painted capstone, Museo Amparo, Puebla (drawing by SM).

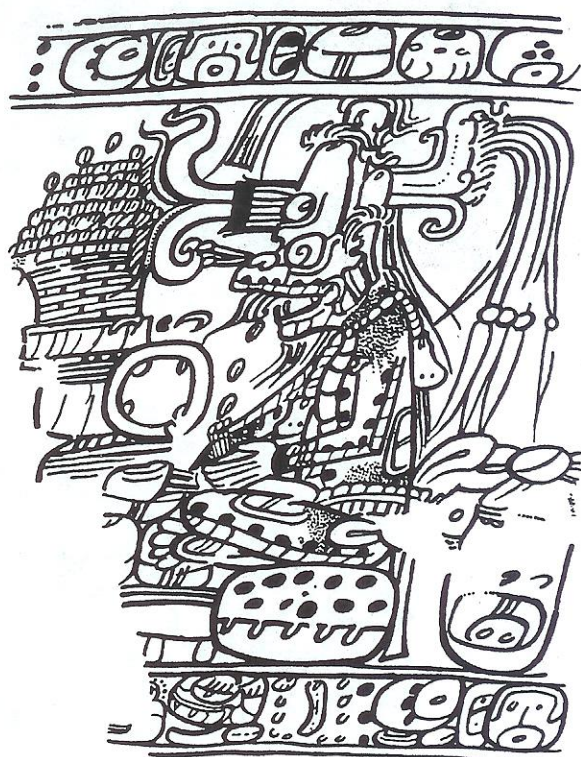



Figure 13b
K'awiil gathering food, water, and seeds in sacks, plates, and baskets. Painted capstone, Dzibilnocac, Campeche (drawing by SM). .

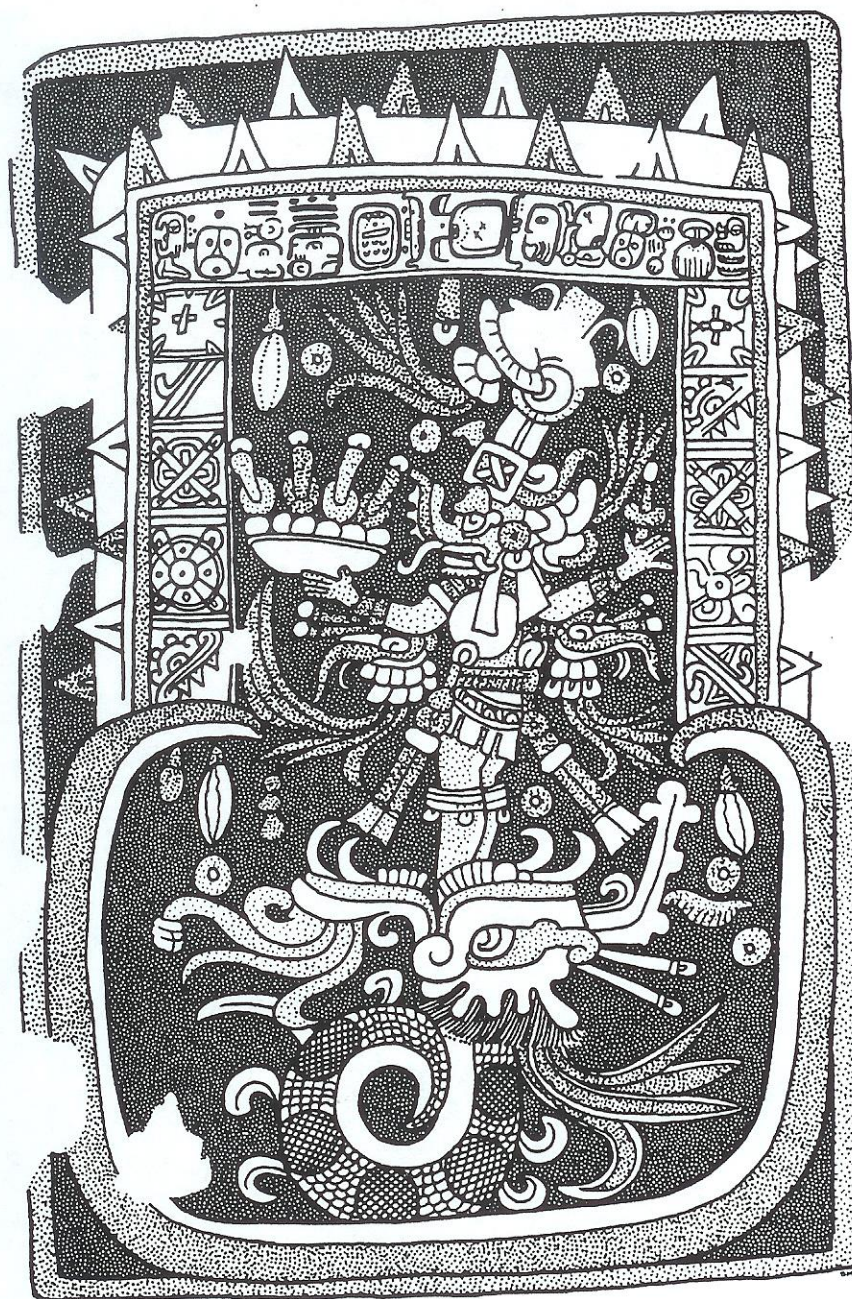



Figure 14
K'awiil's flight from the Underworld depicted on a painted capstone from the Temple of the Owls, Chichen Itza, Yucatan (reconstruction drawing by SM).

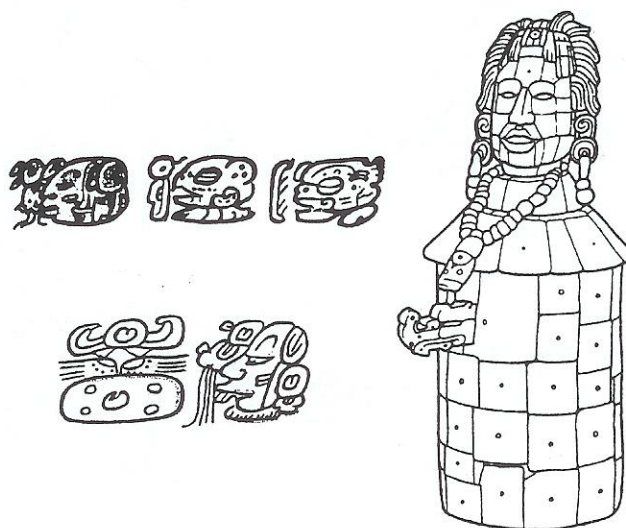



Figure 15
The fruiting Maize Tree on the West Pier of the Temple of the Owls, Chichen Itza, Yucatan (reconstruction drawing by SM).

Figure 16a
The conclusion of cacao beverage descriptions in the Primary Standard Sequence [PSS] on ceramic vessels. IXIM TE'-e-le ka-ka-wa iximte'el kakaw "Maize Tree-like cacao". K8008, Burial 196, Tikal (drawing in Culbert 1993:Fig.84).

Figure 16b
A PSS that omits kakaw "cacao". yu-k'i-bi IXIM[TE'] yuk'ib iximte' "his drinking vessel (for) Maize Tree". K5514 (drawing by SM after a photograph by Justin Kerr).

Figure 16c
The Maize Tree as a chocolate pot. Jade mosaic vessel from Burial 196, Tikal (drawing by SM).